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Writing toward Understanding

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WRITING TOWARD UNDERSTANDING:
Creating Critical Connections

By
Dianne Gregory

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WRITING TOWARD UNDERSTANDING:
Creating Critical Connections


A Thesis Presented


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In writing, meaning cannot be discovered the way we discover an object on an archeological dig. In writing, meaning is crafted and constructed. It involves us in a process of coming-into-being. Once we have worked at shaping, through language, what is there inchoately, we can look at what we have written to see if it adequately captures what we intended. Often at this moment discovery occurs. We see something new in our writing that comes upon us as a surprise. We see in our words a further structuring of the sense we began with, and we recognize that in those words we have discovered something new about ourselves and our topic. Thus when we are successful at this process, we end up with a product that teaches us something, that clarifies what we know (or what we knew at one point only implicitly), and that lifts out or explicates or enlarges our experience. In this way, writing leads to discovery.

-Sondra Perl

I N T R O D U C T I O N

Writing can be a way to learn. If a writer focuses attention intently on a designated subject, she will learn what she knows about that subject. If she writes about that subject, new connections can form between related bits of information drawn from the writer's mind as she works toward a particular writing goal. The purposeful activity of transferring ideas from the mind to the page can lead a writer to a keener understanding of these ideas through their formulation into language. The unskilled writer, as well as the professional, has an array of strategies available to cultivate the germ of an original idea into a clear representation on the page.

Is it possible to break down the seemingly simple process of transferring thoughts to the page into distinguishable, discrete components? If discrete components can be formulated, can we then act within these components to guide students to improve understanding through their writing? These are the key questions addressed in this thesis.

To explore these questions, we must establish the distinguishing features of those who write acceptably and those who do not. Is perfect grammar a prerequisite for acceptable writing, or shall we be more concerned with conveying meaning, with misspellings and misplaced commas allowed? We must also determine what is meant by "understanding." Does understanding imply learning has taken

place? Is it quantifiable? Only when meanings for these terms are established, can we begin to distinguish features of writing toward understanding.

The emphasis in this thesis is on how a writer writes as opposed to what she writes--the process, rather than the product. The correlation between thinking and writing became clearer as instructional emphasis on the process of writing increased. This correlation is a fundamental reason why cognitive scientists have turned attention to the development of writing ability as a concrete analogy for the less concrete development of thinking ability.

Schools have been slow to adapt their curricula to this concept of writing as thinking or learning. Two recent studies, one by Arthur Applebee, the other by the American Association for the Advancement of the Humanities, specifically fault schools for not using writing as a method for learning. (Fulwiler 1983) Applebee discovered in 1981 that only 3% of assigned writing tasks required high school students to compose anything longer than one sentence. His conclusion was that schools use what few writing assignments there are to measure, rather than promote, learning. American secondary schools are not implementing the ideas set forth by the process theorists. "Plainly, schooling as usual won't work. Most schools have a powerful hidden curriculum that precludes the development of higher-order skills in reading, thinking and writing." (Fulwiler 1983, 275)

If we take a graduate of one of these secondary schools with a "hidden curriculum" and follow her into a freshman

composition class, unless she is a student who learns independently, she may be categorized as a basic writer. The characteristics defining the basic writer are recognized by all composition instructors, but rarely articulated, other than an exasperated, "They can't write!". Sondra Perl describes a fundamental characteristic of the basic writer as she discusses the "unskilled writer" in her study, "The Composing Processes of Unskilled Writers."

These students habitually reread their papers from internal semantic or meaning models. They extracted the meaning they wanted from the minimal cues on the page, and they did not recognize that outside readers would find those cues insufficient for meaning....they reduced uncertainty by operating as though what was in their heads was already on the page....they did not see the necessity of making the connections among their ideas apparent, of carefully and explicitly relating one phenomenon to another, or of placing narratives or generalizations within an orienting, conceptual framework. (1979 332-33)

These observations were made by a classroom instructor reporting an exhaustive case study on five of her students. Many terms have been developed to refer to the disparity between an ineffective writer and the effective writer, at whatever level--novice/expert, unskilled/skilled, basic/bellestristic, amateur/professional--but the kernel of each pair is the effectiveness of the writing: has the writer successfully represented her ideas for a prospective reader in an appropriate format. This paper will refer to the writer who connects information together effectively as an effective writer, and the writer who is not so successful will be called ineffective, establishing a continuum of

effectiveness.

In Chapter One the writing process will be broken down into distinguishable components. Most of these components are not discrete, but overlap one another in varying degrees, depending on the individual writer. The components developed are: fluency, experience, dialectic, intention, collaboration, and interpretation. These components intermingle in varying proportions depending on individual writing styles and the writing genre--poetry, grocery lists, philosophical treatises, romantic novels. Each genre demands a different proportion of the six elements. Grocery lists require intention, but needn't involve interpretation. Poetry generally requires experience, but little intention. These components may be plucked individually from the writing stew, but they will be irrevocably flavored by the other ingredients. As the purpose of this thesis is to determine where writing instructors can effectively intervene in the writing process to promote understanding, Chapter One includes a schema for organizing instructional intervention with support from several classroom theorists, including Ann Berthoff, Kenneth Bruffee, Janet Emig, James Moffett, Sondra Perl, Gordon Rohman, and Mina Shaughnessy.

Literature from the comparatively diverse fields of composition and cognitive science each supports the six writing process components proposed here. In Chapter Two we shall move from the classroom into the controlled experimental lab for further corroboration of the key

components of writing postulated in Chapter One. The work of several cognitive developmentalists will be analyzed for its support of my key elements. We will move from the theorizing of John Hayes and Linda Flower to the early observations of Lev Vygotsky, to research conducted by the most published cognitive researchers in writing, Carl Bereiter and Marlene Scardamalia, as well as a study by reading comprehension researchers Annemarie Palincsar and Ann L. Brown.

In Chapter Three, we move from reporting theories on writing and experiments on writing to suggestions for interventions based on those theories and experiments. The curricular materials are presented in a format which moves from early in the semester to the final days of a writing class. At the same time, the instructional interventions also move from the more personal world of fluency, experience and intention, through the intrapersonal area of dialectic, to the socially oriented world of dialectic, collaboration and interpretation.

We, as educators, must learn to present material in a manner that encourages students to seek their own solutions and understanding of issues. If students are not encouraged to operate deliberately on their knowledge, they have difficulty developing formal thought. (Lawson and Renner 1974) "Cognitive development moves first from doing, to doing consciously, and only then to formal conceptualization." (Lunsford, 1979, 40) Instructors can guide their writing students through these stages by implementing careful classroom strategies such as those outlined in Chapter Three

of this thesis. Also the reciprocal teaching technique developed by Palincsar and Brown provides a tested model to guide the incremental development of cognitive skills. (See Chapter Two).

Writing can lead a student to formal conceptualization in content areas across the curriculum. Students gain from using language abilities in every subject area, rather than viewing language as limited to the English class. Writing can be used in science, for example, as an exercise in differentiating between theories. Social studies and history lend themselves very well to learning by writing. By integrating several facts about a particular historical period, for example, a student may come to better understand how the facts relate to one another. Even mathematics can employ writing as a tool for constructing understanding of a particular principle or discussing concepts.

In this thesis I shall argue there are problems common to writers from most disciplines which must be grappled with when working to understand specific texts. A writer must grasp the essence of an idea or thought, a paradoxical task given the ephemeral quality of thought. In order to gain and secure this grasp, a writer can use fluency, experience, intention, dialectic, collaboration and interpretation to shape meaning. By incorporating these six variable components into the writing process, the writer learns to more effectively add pieces of information from memory to the original thought until she can move the idea from her mind to

the printed page. In so doing, the idea takes shape in a way accessible to others, as well as the writer.

The effective writer continues to revise her representation until she is satisfied that she has established as many connections, or relationships as possible among relevant bits of knowledge. A writer must derive the intention to connect her thoughts in her own way. An instructor can not transfer understanding from herself to a student writer. The writer must develop her own understanding by making her own connections with guidance from the instructor. To write with deep understanding, a writer must intend to make her meaning clear to herself, and then to others.

Writing toward understanding is an effort-full, but rewarding, activity. By constructing critical connections in the patterns of a writer's memory, it is possible to reach a fuller understanding of any subject. By stretching the writer's creative potential, she will be empowered to write effectively for her own greater satisfaction. This thesis details how such productive stretching is possible.

Understanding is always possible, but not from
the outside.

-Stanley Fish

C H A P T E R O N E

WRITING TOWARD UNDERSTANDING: KEY ELEMENTS TO GUIDE INSTRUCTIONAL INTERVENTION

Many among us still subscribe to the Big Bang theory of writing instruction. Several students came to David Bartholomae mid-semester of his first year as Writing Program Director at a large university, to complain about their writing professor. The professor, a renowned scholar, had collected only one paper from his students early in the semester, and simply lectured after that. When Bartholomae asked the senior professor about his tactics, the man replied, "I assigned a paper early in the term and they wrote miserably. If I assign more writing they'll only make more mistakes....When they are ready to write, I'll set them to writing again." (Bartholomae 1983, 301) Bartholomae calls his senior colleague's strategy the Big Bang theory of writing instruction. My thesis intends to dispel the adequacy of the Big Bang theory and replace it with instructional strategies that require constant writing, focused attention, and much interaction between classmates to encourage flexibility in grasping and interpreting an idea. It is as difficult for me to imagine learning to write without writing, as it is to picture learning to ride a bicycle without taking your feet off the ground.

The Big Bang theory seems an absurd method of instruction, but many writing instructors are still lecturing

about paragraphs, clauses and spelling, and giving quizzes to prove proficiency in surface details, rather than requiring students to write. It is not that these mechanical conventions of language are not important. They are. But they are not as important as the writer understanding what it is she has to say. As most writers have discovered, grasping an idea that has not yet taken form is an arduous task. The more trouble a writer has determining what she has to say, the less capacity she has left to tackle other considerations, like commas and misspelled words.

Let us examine how the Big Bang theory lost acceptance and was replaced by a composition pedagogy that centers on understanding. In the late 1960s and early 1970s, classroom writing instructors were asked to teach a new generation of students--students new to academia by way of open admissions policies, or fresh from student demonstrations with a new sense of their own authority. Mina Shaughnessy of New York's City University was one of these classroom instructors who met the challenge to help a new breed of student understand the composing process. She shapes what it means to "understand" as she writes of her CUNY basic writing students in Errors and Expectations.

Being able to re-scan and re-work sentences also assumes that the writer is conscious of what he wants to say; otherwise he cannot judge how close he has come to saying it. This consciousness (or conviction) of what one means is difficult to describe. It seems to exist at some subterranean level of language--but yet to need words to coax it to the surface, where it is communicable, not only to others, but, in a different sense, to the writer himself. (Shaughnessy 1977. 80)

Further on, Shaughnessy refers to understanding again, this time the almost physical sensation that accompanies the recognition of an emerging pattern.

Order is a way of arranging units so that they appear to be parts of a developing pattern. The sense of orientation that results from such an arrangement creates a pleasure called understanding. (Shaughnessy 1977, 244-45)

Shaughnessy is referring to the pattern established by arranging related items together which establishes meaning. When something has meaning for us, we may be said to understand it.

Shaughnessy's "pleasure called understanding" is recognized by many who study how writers compose. In Sondra Perl's article "Understanding Composing," she speaks of the "feelings or non-verbalized perceptions that surround the words." (Perl 1983, 45) Perl refers to this unarticulated feeling as "felt-sense":

the soft underbelly of thought [which] can be used as a tool...encompass[ing] everything you feel and know about a given subject at a given time....It is body and mind before they are split apart. (Perl 1983, 45)

In trying to arrive at what it means to understand, Shaughnessy and Perl speak of an unarticulated feeling-- the "click" that occurs when we suddenly become aware of the intrinsic pattern of an idea or group of ideas. Becoming aware of feeling this sense of understanding and learning how to make it develop into effective writing is the writing task.

Perl suggests felt-sense is a term for the voice within, similar to psychologist Lev Vygotsky's concept of "inner

speech." Vygotsky says inner speech is the mediator between thought and language, portraying it as "a dynamic, shifting, unstable thing, fluttering between word and thought."
(Vygotsky 1962, 149)

How is it possible this "unstable thing" which can organize our thoughts into cohesion become a tool for more effective writing? Perhaps "felt-sense" can help determine an appropriate representation for Vygotsky's "dynamic, shifting, unstable" thoughts. How can the writer clearly sense what has been but dimly sensed before? An article published over twenty years ago in a professional journal for college composition instructors covers some basic tenets for guiding students to represent thoughts coherently on the page.

D. Gordon Rohman touches on several important aspects of the writing process in his study, "Pre-writing." (1965) His was an early investigation into the process of writing at a time when much attention was paid to the end-product alone, the finished piece. Rohman defined writing as "something which shows continuous change in time like growth in organic nature." (Rohman 1965, 106) In reading the work of psychologist Jerome Bruner, he found support for his organic idea of writing: Bruner suggested students needed "an understanding of the fundamental structure of whatever subjects they take. In writing this fundamental structure is not one of content but of method." (Rohman 1965, 107) Rohman suggests understanding the structure of the writing process--how parts relate to one another--helps students integrate the process, enabling them to work more effectively. His

attention to the structure echoes Shaughnessy's "developing pattern." Both are referring to the importance of parts relating to one another.

Refer to Table I for a key to discernible components of the structure of the writing process suitable for instructional intervention. Table 1 represents six main elements which I believe comprise the writing process. These elements have been synthesized from my reading of the foremost theorists and researchers in the field of writing over the past twenty-five years. I have developed this framework as a guide for instructors of writing with curricular applications of each element following in Chapter Three. In this chapter I will define the six elements and elaborate on their contribution to writing.

A Key to Guide Instructional Intervention for
WRITING TOWARD UNDERSTANDING

(Figure 1)

Fluency

and flexible access
are the
foundation

Experience

is
knowledge
which creates
authority

Intention

erects a vector
to work along

Dialectic

connects
the novel with the familiar

Collaboration

provides
social context
to construct knowledge

Interpretation

accounts for
multiple representations
of an idea

SHAPE UNDERSTANDING

Fluency

Fluency, as used in this thesis, refers to an ease or facility in generating written material. The quality of that written material is not a constraint when writing for fluency. What counts as "written material"? Even grocery lists, according to writing instructor Toby Fulwiler. "When I write down 'eggs,' I quickly see that I also need 'bacon.'" (Fulwiler 1982, 280) Associations can be made and recorded at the simplest level. Also, writing out a list, organizes the shopping expedition more efficiently by noting items found near one another in the store. Writing leads to organization, even in this simple instance. As we shall see in Chapter Two, researcher Valerie Anderson tests listmaking as a technique to help the writer keep her intention in mind as she writes.

More writing generally leads to better writing, something Bartholomae's esteemed colleague was seemingly unaware of. What constitutes "better writing" will become clearer as I differentiate between the characteristics of an ineffective writer and those of her more effective counterpart. But, first, let us return once again to "felt-sense" as a means to fluency--a way to access the "disembodied thought."

Janet Emig draws from psychologist Jerome Bruner's theory of learning to develop her own ideas, as does Rohman. In "Writing As a Mode of Learning" (1977), she interprets Bruner's theory in terms of the body parts that dominate each

aspect of the learning process: 1) enactive, learn by doing, in which the **hand** predominates 2) iconic, depiction of an image, the **eye** is dominant, and 3) representational, restatement in words, the **brain** dominates. (Emig 1977, 124) Emig's images for concretizing learning styles give us three aspects of learning--the doing, the seeing, then the restating of what we have done or seen. Notice this is a reiteration of Lunsford's assessment of cognitive development cited in the Introduction--cognition develops as it moves from doing, to doing consciously, to conceptualization.

Emig's rendering of the learning process gives us an image of that part in each of us that tries to "grasp" an elusive thought. The hand is generally the part of us that grasps and gropes, or grapples with--all metaphors commonly used for our minds "coming to grips" with an idea. It is the mind that must grasp an idea firmly enough to assign it a symbol separate from us, i.e., language, both spoken and written. A felt-sense of appropriateness is an integral part of the mind finding a form to represent the idea. English psychologist and former writing instructor at University College London, P.C. Wason, also writes about methods for learning to "test the appropriateness of each word." (Wason 1980, 131) I shall speak more of Wason's suggestions later on.

Writing instructor Mike Rose, who has also studied the cognitive aspect of learning how to compose, sums up this search for appropriate choice, "We search, critically, through alternatives, using our heuristic as a divining rod."

(Rose 1980, 391) Douglas Lenat suggests "heuristic" is compiled hindsight, informal judgment rules that draw their power from the various kinds of regularity and continuity in the world. (Lenat 1982, 189) If a "divining rod" is an instrument which discovers something previously covered, such as water under the ground, then Rose is suggesting we can use our awareness of patterns established, our "felt-sense" of appropriateness, to discover unrevealed ideas. In his article on writer's block, however, Rose warns of trying to pin heuristics down too closely.

Heuristics won't allow the precision of the certitude afforded by algorithmic operations; heuristics can even be so 'loose' as to be vague; But in a world where tasks and problems are rarely mathematically precise, heuristic rules become the most appropriate, the most functional rules available to us...." (Rose 1980, 391-2)

We must figure out how to grasp this divining rod and apply it appropriately. In an article in Research on Composing: Points of Departure, Donald Murray suggests, "There are also indications that considerable familiarity with a subject, experience with a form, and confidence in a voice may increase discovery." (Murray 1978, 96) If the writer's objective is to "discover" what she knows, or even discover what may grow from what she knows, then Murray suggests these elements may take her there. To be successful, a writer must experience her subject as fully as possible, "to grope for what it is in us that 'tallies' with a subject." (Rohman 1965, 109)

If we consider form in the manner Samuel Taylor

Coleridge does in Biographia Literaria, we see that form is an organic and vital kind of synthesis.

it struggles to idealize and to unify...
shaping as it develops itself from within and
the fullness of its development is one and the
same with the perfection of its outward form.
(Rosenblatt 1978, 50-51)

"Form" unifies and shapes the ideas it contains.

Consideration of "appropriate form" is essential for a writer to convey meaning. To establish the appropriate form we use our "divining rods of appropriateness". "Does this word make me think of the idea in my head? Is that one more appropriate? Is it necessary to provide background for a reader to understand my point?" By considering these and other questions during the writing process, a writer can sift through alternative ways of representing her ideas, settling on the most appropriate for any given audience. Without symbolic form there is no concrete evidence of a thought. Attention to form at the expense of idea denies the meaning of the writing. But concentration on idea without form may leave a disorganized chaos of inappropriate words signifying nothing. Although a writer may work alone to develop fluency--a method advocated by Peter Elbow in Writing Without Teachers (1973)--this thesis will primarily address strategies and methods instructors might use to enhance a writer's facility with forms that represent thought.

By writing regularly and often, a writer gains experience in determining the appropriate form to use for a given writing situation. By getting a feel, or felt-sense, for the way words can hang together to form a thought greater

than the sum of the individual words, a writer becomes aware of the vitality of words as she consciously forms her thoughts on the page.

Another aspect of fluency important to develop is flexible access. In order to facilitate associations between an item under consideration and information stored in the writer's memory, the writer must be able to access that information readily. Writing researchers Bereiter and Scardamalia have experimented with techniques designed to increase this access and make it easier. They refer to this facility as "flexible access." (See Chapter Two)

Another team of writing researchers, John R. Hayes and Linda Flower, have studied constraints on flexible access. One constraint that studies have suggested interferes with writing is attention to grammar and spelling. Much research and theorizing has been published on the relevance of grammar in the teaching of composition. Patrick Hartwell presents a balanced view of the pros and cons of teaching grammar in an extensive review of articles and studies on grammar over the past 25 years, "Grammar, Grammars, and the Teaching of Grammar." (1985) Although Hartwell evenly presents both sides of the grammar issue, he makes it clear the material favors attention to flexible access and the development of the writer's meaning over grammar and mechanics.

The reason an emphasis on grammar and mechanics can harm a writer's development is addressed by Mina Shaughnessy, who has written what many consider to be the "bible of basic

writing" in her Errors and Expectations. Shaughnessy speculates that as long as the mechanical processes involved in writing are labored or even highly conscious, the writer is not likely to have easy access to her thoughts.

(Shaughnessy 1977, 14) Consider the limited number of ideas any writer can think about at a given time. As students write, they may be using all their capacity to reach an understanding of the subject, leaving little concentration available for grammar and spelling. There is time for attention to correctness and editing after a writer has generated and cultivated her ideas.

What is advocated in this thesis is attention to **process**, rather than **product** in writing. With practice concentrating on intended meaning, appropriate surface details can be expected to fall into place. At least two researchers, Chall (1967 and 1983), and Williams (1979), have shown that programs emphasizing surface detail over meaning are more effective--but only in the first and second grades. Linguist Martin Joos suggests a possible explanation. "The second stage [of language development] is learning the grammatical system...it is complete--and the books are closed on it--at about eight years of age." (Joos 1964, 205) Furthermore, there is evidence that children who are allowed to use their own creative spellings as they begin to form written language, naturally correct these forms to match the patterns learned in reading (Chomsky 1977). As a writer works toward clarity and cohesion, a natural development can be attention to those conventions of language which refine

meaning, including grammar and spelling.

Attention to "correctness" implies that an incorrect written expression represents an incorrect thought. Freedom to make mistakes is a necessary early step in learning to control language. A writer must be allowed to try out her ideas. Once she has control of the language, it is time enough to concentrate on refinements. Undirected freewriting provides this freedom to make mistakes and gain confidence in one's own ability to make appropriate connections. Freewriting, both directed and undirected, will be discussed more fully in Chapter Three.

Ineffective writers are dominated by surface detail (Scardamalia and Bereiter 1986), while the more effective writer, moves from idea to information in memory and back again without the burdensome constraint of searching for the proper spot to place a comma. If we hope to guide the ineffective writer to a better developed style of writing, we must steer her away from attention only to surface detail. It is difficult for the ineffective writer to work toward deeper levels of understanding if she is expected to attend to details inessential to intended meaning, thereby detracting from her capacity to make new associations. An individual has a limited capacity to attend to items with the mind. By removing the constraint of correct mechanics, more capacity is free to make connections between bits of information critical to the writer's understanding.

When writers fail to write from their experience, they

must establish something else to guide and shape their writing. Rules provided by instructors and texts often are used by writers who have not yet learned to rely on their own knowledge to inform their work. Sometimes student writers impose rules on themselves, but more often writing rules are imposed by an instructor. Many writing instructors have written about the detrimental effect of too many rules cluttering a writer's mind, blocking the search for understanding. Sondra Perl writes:

students begin to conceive of writing as a 'cosmetic' process where concern for correct form supersedes development of ideas. As a result, the excitement of composing, of constructing and discovering meaning, is cut off almost before it has begun. (Perl 1979, 334)

Mike Rose writes that the very rules instilled by writing instructors and texts may be the cause of writer's block in the student writer. (Rose 1980, 393) P.C. Wason reports on a study conducted by him and Lowenthal in 1976 in which they inquired of faculty members at University College London as to their enjoyment of writing. The main finding was, "those who planned their writing ahead of time generally disliked the process; those who could think only as they wrote enjoyed it most." (Wason 1980, 133). Half of Wason's colleagues would have had a hard time writing had they been forced to write from an outline. How, then, can we expect all our students to perform adequately under a system while half of a prestigious university's faculty could not?

In "The Phenomenology of Error," Joseph M. Williams attacks the methods of those who advocate correctness over

understanding. Williams argues that even those who compile usage manuals make usage mistakes, not only over the years, but in the manuals themselves. He says errors are found if they are looked for, particularly by those who feel obligated to point out errors simply because they know a rule. Williams also holds the converse to be true--we do not find errors if we don't expect to. The converse of Williams' assertion provides a surprise ending of his article. Williams invites his readers to count the number of usage errors in his article, which he estimates to be about 100. He asks the reader not to go back over the article looking for errors, but to report the number of errors noted when the article was assumed to be error-free. Williams successfully makes the point that reading for ideas does not garner the same response as reading for errors.

Donald Murray, a writing instructor and prolific author, has adopted the Latin phrase attributed to Pliny, nulla dies sine linea (never a day without a line), as his writing guide. Not only does he follow this guideline himself, but he expects it of his students. Murray counts jotted notes, strict outlines, and rough drafts, as well as polished prose, so long as the writer exercises the mental activities required in the act of connecting ideas, that is, composing. Chapter Three contains a full account of how to usefully employ a journal or daybook in encouraging students to write regularly.

Fluency is a prerequisite for the skilled writer. We must desert the Big Bang theory of writing in favor of

writing for fluency. The more experience a writer has with stringing bits of information together into related clusters of knowledge, the more coherent thought-represented-in-language can be.

Experience

We have argued that a writer can develop fluency by writing regularly and often with special attention paid to a sense of the representation of a thought which "feels" appropriate. But let us explore at greater depth just how to grasp the thought and make it grow. Janet Emig speaks of learning as "the re-organization or confirmation of a cognitive scheme in light of an experience." (Emig 1977, 124) If we assume learning to be a development in understanding, then experience is an essential element of learning. Or, as writing instructor Stephen Tchudi states, "language, thinking, and experience are inextricably bound up." (Tchudi 1980, 36)

In "Pre-writing," Rohman speaks of an event being converted into an experience. He describes the effective writer as someone

with an exceptional power of revealing his experience by expressing it, first to himself, and then to others so that we recognize the experience as our own too. When an 'event' is so recognized it is converted from something happening to us into something happening in us....The writer gropes for those words which will trigger this transformation. (Rohman 1965, 108)

Or more simply, "experiences are internalized and in a

language-based process synthesized to become part of the person's storehouse of experience." (Tchudi 1980, 38)

Tchudi's "storehouse of experience" is our knowledge stored away for future reference, provided we can make the connections critical to bring it to the "place" in our minds where we can grasp it later. As these writers point out, experiencing is essential to grasping an idea. The writer must be an active participant in experience. Observing or describing has limited value, for unless the writer goes within herself and recognizes a resonance with the object described or observed, the writing will be ineffective.

Rohman states, "good writers are persons with a real involvement in their subjects and in themselves." (Rohman 1965, 109) He exhorts, "Keep composing until you reach the point that your understanding of your 'subject' is experienced within." (Rohman 1965, 110) Here Rohman suggests fluency aids in experiencing a subject. By continuing to write about a subject, the writer integrates that subject within her mind, leaving more capacity free to sense the appropriate way to represent the subject.

Rohman thought a writer should "assimilate his subject to himself," (Rohman 1965, 106) that the writer experience her ideas. To understand Rohman's phrase, "assimilate a subject," it is useful to examine Vygotsky's concept of "inner speech."

The greatest change in children's capacity to use language as a problem-solving tool takes place somewhat later in their development, when socialized speech (which has previously been used to address an adult) is turned inward. Instead of

appealing to the adult, children appeal to themselves; language thus takes on an intrapersonal function in addition to its interpersonal use. When children develop a method of behavior for guiding themselves that had previously been used in relation to another person, when they organize their own activities according to a social form of behavior, they succeed in applying a social attitude to themselves. The history of the process of the internalization of social speech is also the history of the socialization of children's practical intellect. (Vygotsky 1978, 63)

Vygotsky talks here of the "intrapersonal" aspect of language. It is this aspect that leads to control over language as the writer is guided to control her own behavior, rather than look to her environment to organize activities. But this intrapersonal aspect of self-regulation can only be developed, in Vygotsky's opinion, through interaction with the social context. The organizational quality of behavior experienced originally as separate, when internalized, leads to metacognitive skills acquired to oversee an individual's own activities. Inner speech contains the germ, not only for a concept of experience, but also the value of collaboration, which will be discussed later. Experience happens within the individual, but is triggered most often by interaction with the environment.

One way to develop "inner speech"--to tune in to one's experience--is through focused inward attention, or meditation.

The Meditation involves the willful employment of the mind in a progression of stages on a process of transformation of... 'subjects' into personal experiences. (Rohman 1965, 110)

Meditation makes the ephemeral more graspable, more experienced. Curriculum innovator James Moffett in his essay,

"Writing, Inner Speech, and Meditation" (1981), picks up on Rohman's suggestion that meditation is a means to convert events into experience. Moffett suggests that self-awareness provides a grasp of the patterns of inner life as abstractions of our experiences. (Moffett 1981, 146) Further on, he says,

So the aim of discursive meditation is to channel and intensify inner speech in a state of heightened consciousness and self-communication that enables the writer to summon all he is capable of saying about the subject. (Moffett 1981, 176)

Moffett, Rohman and Vygotsky are addressing the necessity for a writer to "know" her own experience by focusing internally. Vygotsky postulates that, to communicate well in writing, a person must unfold and elaborate an idea which may be represented in the mind by a single word. To write, he says, one must proceed from

maximally compact inner speech through which experiences are stored to the maximally detailed written speech requiring what might be called deliberate semantics--deliberate structuring of the web of meaning. (Vygotsky 1962, 100)

A writer has to deliberately choose the appropriate word or phrase to capture her inner speech and weave her ideas into text that conveys meaning. If, however, the student uses only the springboard of idea to launch her writing, without considering alternative forms of representation, the writing may be egocentric, as suggested by cognitive theorist Linda Flower, and inappropriate for a reader other than herself. Much of getting an idea out of the mind and onto the page has to do with a writer's level of confidence in her accumulated

experience, a willingness to expose inner speech to outer speculation.

Dialectic

To gain a clearer and deeper understanding of a subject, a writer must focus on her ideas. This consideration might include a restating of ideas, or a reflecting on them. In turn, it might lead to a realization of new ideas which stem from the original thought or ideas not previously considered related. Whatever thought processes a writer goes through as she prepares to write, she is re-presenting ideas on the page, since writing is a system for substituting forms on a page for ideas in the mind. Each of the words in this paragraph with an re prefix refers to a recursive quality embedded in the symbol-making process: restating, reflecting, realization, related, representing, reursive.

Classroom theorist and researcher Sondra Perl describes this "recursive" quality:

throughout the process of writing, writers return to substrands of the overall process, or subroutines (short successions of steps); writers use these to keep the process moving forward. In other words, recursiveness in writing implies that there is a forward-moving action that exists by virtue of a backward-moving action. (Perl 1983, 44)

This going back and forth between the writer's budding idea and possible ways of representing it, establishes critical connections in the writer's mind between the essence of the idea and related information in the writer's memory. This recursive quality is called "dialectic" by some writers,

including English professor Ann Berthoff. Her idea of dialectic goes further afield than the "forward-moving" and "backward-moving" described by Perl. Berthoff suggests composing is like gathering a flock of sheep:

Our method works like a Scottish sheep dog bringing in the sheep: she races back and forth, driving the flock in one direction signaled by the shepherd, but acting in response to the developing occasions, nudging here, circling there; rushing back to round up a stray, dashing ahead to cut off an advance in the wrong direction. (Berthoff 1982, 49)

Whether we consider the expert writing process recursive or dialectical, it is clear that there is a relationship established by the movement between ideas. As a writer studies a subject, making inferences and analogies, analyzing and synthesizing, she returns again and again to information in long-term memory, creating an ever-widening network of connected thoughts. Cognitive psychologist Jeffrey Franks describes "long-term memory" as: "everything we know about the world....This is our semi-permanent, relatively static knowledge." (Franks 1974, 234) The essence of writing could be considered to be a proliferation of networks of information which forms Vygotsky's "web of meaning."

Information enters our memories through perception. but

perception affords more than information about the characteristics of individual objects; it affords...spatio-temporal relations among entities.... [It is] relational information among entities that render them meaningful." (Bransford and Mccarrell 1974, 191)

Without some connection or relation established, information remains isolated bits of useless instances. "All

learning depends on relating the novel to the familiar."
(Berthoff 1984, 129) This recognition of relations between bits of information is essential to make sense of the endless flow of data entering minds.

The connections we make force us to see information we did not see before. The connections we are making also force us to seek new, supporting information; but, of course, some of that information doesn't support--it contradicts. So we have to make new connections with new information which in turn demands new connections. These powerful, counter-vailing forces work for and against each other to manufacture new meanings as we live through new experiences. (Murray 1983, 8)

Through trial and error in the classroom, as well as formal studies undertaken in research labs, a variety of strategies have been developed to aid the writer in constructing and proliferating connections to successfully tap the potential to learn through writing. Developing a dialectical style of writing encourages connections that form patterns of meaning.

Intention

Berthoff elaborates on her sheep dog definition of "dialectic," to further describe the interwoven quality of thought and language.

[Dialectic] names the mutual dependence of language and thought, all the ways in which a word finds a thought and a thought, a word. The most useful definition for our purposes comes from I.A. Richards who calls dialectic a continuing audit of meaning. (Berthoff 1981, 47)

By continuing to "audit meaning," we necessarily keep in mind the intention with which we set out to write. "Does what

I am writing now match what I set out to do? Has my understanding of the subject changed so that my intention needs to be revised?" These are continuing questions asked by the effective writer as she listens to her inner dialectic.

The writer must have an internally derived intention to successfully state her understanding of an idea or concept, both to herself and to others. The writing instructor's job is to transfer the responsibility for understanding what is written to the student writer. A writer can be encouraged to develop her own authority through writing. Testing writing for appropriateness begins with how it sounds--the voice the writer projects. P.C. Wason has suggested a means to develop this intentional voice with his "potential audience." He writes, we must "test our words against the hypothetical understanding of a potential audience." (Wason 1980, 131) By hypothesizing an audience, the writer makes more concrete one of the constraints of the writing process. As is illustrated in the curricular suggestion on "Values and Beliefs" in Chapter Three, the intentional voice of the writer changes markedly as she writes the same material for four different hypothetical audiences.

Intention is comprised of two basic components--plans and goals--formulated in several articles. (Flower and Hayes 1977, 1979, 1980, 1981, 1984; Bereiter 1980; Scardamalia and Bereiter 1985; Scardamalia, Bereiter and Steinbach 1984) Planning is the cognitive process encompassing procedures that writers refer to variously as incubation, getting it right with oneself, or finding a focus. These procedures

resonate with the various aspects of experience already studied. But a plan can assume no form unless it has a purpose--a goal--around which to form. The goal in writing is the end-product; hopefully a coherent, effective piece of writing. Researchers have observed that ineffective writers invariably lose sight of their goal as they write. When a writer loses intention, she loses the thread that guides her thought-in-writing. Ineffective writers may focus attention on unfamiliar writing conventions, such as correct spelling or an assigned format, at the cost of adhering to their original intention as specified in the goal. Both planning and goal-tending are self-regulated activities requiring higher-order thinking skills developed by the effective writer over time.

Intention could be said to be the coalescing agent in the writing process. If fluency provides lots of material from which to work, experience is the material, and dialectic is the modus operandi to associate related material, then intention is the heart of the writing process. Intention is not part of the material from which we draw to write, but gives us the impetus to write. That is why it is so important for the writer to develop her own intention and authority, rather than trying to please an exterior authority figure. "Beneath the content of every message is intent. And form embodies that intent." (Knoblauch 1980, 153-4)

Collaboration

Collaboration refers both to the existing context of the individual within society and also the directed applications of this concept within the classroom. An important application of the concept is the writing collaborative, or writing group, in which writers share their responses to their own and others work in progress. Guidelines for responding within the writing group are included in Appendix C. Let us examine some thoughts leading to the view that individuals learn in a group context at least as well as studying alone.

Nan Elsasser and Vera John-Steiner, two translators of Vygotsky's works into English, have suggested why writing language is so much more difficult than speaking in "An Interactionist Approach to Advancing Literacy." "The key difference...is the high level of abstraction and elaboration required for minimally comprehensible written speech.

(Elsasser and John-Steiner 1977, 358) In tracing writing back to its source, they draw on Vygotsky's view that the original mental source of writing is inner speech. Vygotsky believed that language and higher cognitive abilities developed concurrently. Without one, there could not be the other. He also believed that language was a social development. There would be little reason to name objects or actions unless there was someone with which to communicate about them. From this basic view of language as a social construct, a school of epistemological thought has arisen which holds knowledge to be a social construct.

language is developed, extended, and modified

through the constant interaction of individuals and their social context. Written speech is an act of knowing the existence of two interrelated contexts. (Elsasser and John-Steiner 1977, 368)

Kenneth Bruffee, a writing instructor at Brooklyn College, has written a bibliographical essay including works from several disciplines which he considers pertinent to a study of knowledge as a social construct. Bruffee's article develops the concept of social construction from the work of anthropologists, philosophers, historians and educators.

A social constructionist position in any discipline assumes that entities we normally call reality, knowledge, thought, facts, texts, selves, and so on, are constructs generated by communities of like-minded peers. (Bruffee 1986, 774)

If we take the general student population to be a group of "like-minded peers," we can assume that students collaborate naturally to establish their knowledge. Collaborative learning attempts to channel the informal learning that naturally occurs in the student culture into an academic structure. In his comprehensive article, "Collaborative Learning and Teaching Writing" (1985), John Trimbur refers to collaborative learning as "an experiment in context," alternate ways of being with the text (con-text). (Trimbur 1985, 87) With all group members contributing, the authority of the text becomes the product of social interaction, much the same as knowledge can be understood as a product of social interaction.

A key point in the writing collaborative, then, is the shift of responsibility from instructor to the group. The instructor establishes the organization of the group and

educates group members in appropriate forms of response. This initial organization is just the skeleton which the group members then flesh out with contributions from their own experience.

The writing collaborative as it is understood today has been shaped by the work of several twentieth century thinkers. When John Dewey called for a new kind of education in his Experience and Education (1938), based on the "organic connection" between education and experience, he cautioned against trading rigid authoritarian control in the classroom for no control.

When external control is rejected, the problem becomes that of finding the factors of control that are inherent within experience (Dewey 1938, 21)

Dewey felt the social interaction of learners could provide a source of order. His use of "experience" here is similar to that outlined earlier in this chapter, but it is the experience of the group as a single entity, rather than the individual writer.

Another contributor to the theory of collaborative learning is M.L.J Abercrombie. She noted in The Anatomy of Judgement (1960), that group discussions by her medical students at University College London revealed contradictory inferences developed by individuals in the group as they learned diagnostic skills. Since the information being considered might be a matter of life and death, group members could not leave their contradictory inferences unreconciled. She found that reaching consensual solutions modifies the necessarily limited perceptions of an individual by expanding

the outlook of the individual to include alternative perspectives. The participatory style of the consensual group replaces egocentricity with a broader context.

Interaction within the writing group leads to heightened awareness of other points of view. Mina Shaughnessy spoke of a lack of this awareness as "premature closure," a rush to commitment without due consideration of alternative perspectives.

One of the most notable differences between experienced and inexperienced writers is the rate at which they reach closure upon a point. The experienced writer characteristically reveals a much greater tolerance for what Dewey called 'an attitude of suspended conclusion' than the inexperienced writer whose thought seems to halt at the boundary of each sentence rather than move on, by gradations of subsequent comment, to an elaboration of the sentence. (Shaughnessy 1977, 227)

The experienced or effective writer can suspend the need to trap a thought by transferring it verbatim to the page. Instead, she can hold the thought tentatively and explore other thoughts which may be related. She uses the dialectical process to gather stray thoughts for consideration. The effective writer knows she can word her thought any number of ways depending on what else she discovers may be related.

Another important aspect of the writing group is immediate feedback. This manifests in the evaluation of ideas and word choice by group members and may or may not include input from the instructor. In this manner, the writer is guided away from second-guessing what the instructor is looking for. The second feature of this peer feedback is an

immediate audience. Ineffective writers have difficulty adding the hypothetical audience to their writing process. The writing group provides a concrete audience that does not require conjecture by the already burdened mind of a writer who may have difficulty formulating thoughts on the page.

Interpretation

In guiding a student to work as closely as possible with her own experiences, drawing them out, clarifying what a particular experience means to the writer and what was learned, the instructor cannot forget that the writer has her experiences within a social context. It is important to understand that individuals experiencing separately, influence the construction of one another's knowledge. Essential to developing an effective writer who understands the concepts with which she is working, is at least one more element--alternative perspectives. Sociolinguist Elliott Mishler addresses this issue with his inquiry, "Meaning in Context: Is There Any Other Kind?" (1979). In his article Mishler argues for a phenomenological tradition which

contains multiple truths, each of which will be revealed by a shift in perspective, method, or purpose. Since reality is knowable in an infinite number of ways, many equally valid descriptions are possible. The choice among them depends on the purposes of the investigator and the focus of the investigation. (Mishler 1979, 10)

The choice of an appropriate representation is influenced by the intention and focus of the writer. As the writer reflects on her experience and compares her own

experience with that of others, she can see that there is more than one way to represent an idea, depending on the perspective of the perceiver. The social context provides alternative perspectives of any given idea. The writer's interpretation of her experience is widened through collaboration with others in her social context.

By incorporating Mishler's "multiple truths" into our instructional model, an experiential collaborative encouraging interpretation of alternative perspectives is established on a foundation of regular, focused writing. These key elements become pegs on which to hang the discussion of a writer's work in progress. Through the exchange of ideas within a writing group, a writer adds another dimension to her previously internal dialogue leading to the symbol-making process which is writing.

Our model of effective writing includes fluency, intention, and experience (knowledge) drawn from within in a dialectical process. We go about constructing knowledge "by relating pieces of specific information to other bits of information and use words to symbolize and connect that information." (Murray 1978, 93) We make connections, relate one thing to another. We form networks of related information in our stored knowledge. Gordon Rohman was addressing this "relatedness" when he wrote about analogy being essential to his writing model.

A writer is one who recognizes present events as special cases of transformed 'experience' known before....by arbitrarily looking at an event in several different ways, 'as if' it were this sort of thing, or that sort of thing, a student can

actually experience transformation from the inside....The analogy functions both as a focus and a catalyst for 'conversion' of event into experience.... By rearranging and reassembling the focus of our experience of things, analogy puts into our hands a ready-made model of pre-writing discovery. (Rohman 1965, 111)

Analogy forms a path to create critical connections within our knowledge. Our task as writers is to represent our knowledge as clearly as possible in written language. The very characteristics which makes writing a "mode of learning," in Emig's terms, also makes it a difficult process to execute effectively.

It is difficult for a heterogeneous group of individual thinkers to totally agree on one way to represent what-is, or even to know "what-is." We can expect multiple representations of knowledge since knowledge is derived in the multiplicity of social reality. Bruner states, "Meaning is what we can agree upon....reality is not the thing, not in the head, but in the act of arguing and negotiating about the meaning of such concepts." (Bruner 1986, 122) In Hayes' and Flower's study of representation of meaning in writing, which will be examined in greater depth next chapter, they state, "abstract propositions allow alternative instantiations." (Hayes and Flower 1984, 137)

We can not transfer the idea literally from our minds to the page, we can only choose an abstraction of our idea, whether that be a word, a phrase, or a whole book on a particular concept. Philosopher Suzanne Langer has pondered at length the process of transferring an idea into abstract symbolization.

With its liberation from perception the image becomes general; and as soon as it can represent something else than its own original stimulus, it becomes a symbol. Schematic similarities in otherwise distinct images make it possible to recall one object through the image of another. (Berthoff 1984, 124)

Thus we can only generalize or abstract our original idea into a formal representation.

If the writer understands the multiplicity of possibilities in writing introduced through the use of abstractions, she increases her opportunity to write effectively. The effective writer can create tentative structures to be modified as new elements enter the focus of attention. This is an aspect of the nature of understanding--being open to new information which may change the structure of our knowledge at any given moment. James Moffett speaks of the need for our "truth" to be flexible enough to accommodate new information. He states, even "scientific" breakthroughs may be viewed as "pushing a dent out in the battered sphere of truth by undoing an epoch's 'current abstractions,' (Moffett 1981, 167).

By choosing to represent an idea in written form, the writer opens the door to interpretation. As soon as she sets her idea down in whatever form outside herself, she is allowing a reader to interpret her symbol and can only hope she has written effectively enough for the reader's understanding of that symbol to overlap her own. It could be said that all language use is subject to interpretation. A determining factor in effective writing, then, is

interpretation by a reader that matches or leads beyond the writer's intention. This helps clarify why egocentric writing is ineffective. If interpretation must take place for a reader to comprehend a writer's ideas, the writer would do well to consider the context of her written work, not just her idea.

This suggestion that a symbol does not have a one to one correspondence with what it represents, has been studied by many fascinated by language, its origins, and its effects. Vygotsky refers to this idea-symbol-context triad as a mediated act:

But the structure of sign operations requires an intermediate link between the stimulus and the response. This intermediate link is a second order stimulus (sign) that is drawn into the operation where it fulfills a special function; it creates a new relation between S and R. The term "drawn into" indicates that an individual must be actively engaged in establishing such a link.... Consequently, the simple stimulus-response process is replaced by a complex, mediated act, which we picture as:

S-----R

X

(Berthoff 1984, 71-72)

Vygotsky here simplistically represents his observation that symbol evolves within a context. Given another social setting, or another audience, or another writer, or another observer--the same idea could be represented in as many different ways as there are individuals selecting a symbol. There is no one-to-one relation when it comes to representing something by a sign or an abstraction. While this may be a

confusing concept to the inexperienced writer, it can become the key that opens limitless possibilities to an inquiring mind.

Summing Up

To sum up this theoretical model for writing toward understanding, let us collect all the strands mentioned thus far: fluency is the foundation which establishes flexible access of information in long-term memory; fluency is enhanced by a dialectical method of shuttling between ideas being developed and experiences stored in long-term memory; experience is knowledge intentionally sensed within; intention provides focus for the experiences we access as we write; collaboration is knowledge constructed in a social context; and interpretation is the sense we make of our knowledge as we represent it to ourselves and others.

The writer working toward understanding, must write often to develop fluency in generating and articulating ideas. By writing daily, the writer gains confidence in her ability to transfer ideas from her mind to the outside world. Without this basic facility with written language, a writer cannot hope to understand her own thoughts well enough to explain them to others.

By authority developed in considering the response of a hypothetical audience, by attending to the developing idea, and being mindful of the alternative forms of representation possible, a writer develops her intention. To assimilate an

idea, a writer experiences that idea as fully as possible, taking it within herself, rather than observing it from outside. If we are to write from a knowledge base, we must make as many connections within our knowledge as can be activated by focused attention. An idea is found, groped toward, then expanded on, and connected to other ideas.

There is rarely one perfect form to serve a specific purpose. Consequently, the writer sorts through possible modes of representation and chooses the symbols appropriate for the circumstances at hand, knowing that another individual might hold a different perspective on the subject. The two individuals can negotiate a common interpretation of a meaning for any given representation but cannot determine an objective reality. If the context for the representation is removed, it is subject to a different interpretation. Interpretation of a symbolic form takes place, both for writer and reader, as each constructs her own meanings by making connections critical to her own understanding.

The development of knowledge, then, involves a consensus. Bits of information are individually stored, but the context of those bits of information is social. Knowledge cannot be removed from context. If knowledge is socially constructed and our concern is to write our way to a clearer understanding of our knowledge, and therefore our experience, we shall come to value the social context found in the writing collaborative.

The writing collaborative provides a setting to apply

the experiential concept of writing toward understanding developed through fluency, dialectic and intention. In Chapter Three, applications of these key elements suitable for the writing classroom will be set forth. But first, in Chapter Two, I shall examine studies by researchers which corroborate through research, the relevance of these key components of effective writing as guides for instructional intervention.

Writing would seem to offer an especially promising domain in which to help students develop skills of setting and pursuing cognitive objectives. It allows students to work with whatever knowledge they have and to concentrate on its implications and interrelationships. Goals to understand, to solve, to evaluate, to define, and many others of this kind are amenable to pursuit either as primary or as secondary objectives of a writing project.

-Marlene Scardamalia and Carl Bereiter

C H A P T E R T W O

SUPPORT FROM RESEARCH IN COGNITIVE DEVELOPMENT

Exploring writing as an area of research rich with clues to understand thinking processes is in its infancy. In fact cognitive science in general is a field of study barely 25 years old. About the same time composition theorists reviewed in Chapter One were breaking new ground in the classroom, individuals in several disciplines were narrowing in on how the individual learns. Innovative thinkers in psychology, artificial intelligence, linguistics, composition, anthropology, and philosophy, simultaneously, it seems, began to bear down on exactly how we think. With the exception of artificial intelligence, these are roughly the same fields which have contributed to the theory that knowledge is constructed socially. Significantly, similar conclusions are being reached by cognitive developmentalists about the nature of the learning process as have been reached by composition theorists. In various disciplines, the intense interest in how we think correlates with emphasis in composition pedagogy on how we write.

Cognitive psychology has been concerned with the patterns of association necessary to connect a subject with knowledge stored in memory. If this pattern of associated knowledge cannot be activated and brought to the conscious part of the mind, the knowledge remains inert and inaccessible to the individual. By formulating and

reformulating the subject at hand, associated networks of information are activated in memory. The more the subject is reworked, the more connections are made within related knowledge. Constructing these critical connections between the subject under consideration and knowledge in memory is the heart of the effective writer's process.

In Chapter Two I will show how the six key elements proposed in Chapter One resonate with current literature on writing in cognitive and developmental psychology. I will begin with the work of Jean Piaget and Lev Vygotsky. Both support my emphasis on learning as a dialectical process, and Vygotsky particularly, articulates the special role of interaction with other people in facilitating this process. I will then turn to examine specific studies on reading and writing development. These studies not only support the idea that fluency, experience, dialectic, intention, collaboration and interpretation are important, but provide specific suggestions for heuristic strategies that guide the development of effective writing.

Each of the key components encourages the proliferation of connections between bits of information which may appear unrelated. To establish connections which lead to effective writing, higher-order thinking is required. "Higher-order thinking" refers to critically examining past decisions, anticipating difficulties, reconciling competing ideas, plans, self-monitoring, revision, analysis, synthesis--any procedure that integrates information not perceived as related at first exposure. Some amount of effort or activity

focused on the subject is required to evidence higher-order thinking. Learning may be considered to add new connections between ideas, as well as new elements to memory. The incorporation of higher-order thinking contributes not just to an immediate task but cognitive development, or learning, in general. (Scardamalia and Bereiter 1985, 566)

Early Work in Cognitive Development: Piaget and Vygotsky

Many of those working in the field of cognitive development, as well as those whose main interest is teaching writing, have been influenced by the Swiss Jean Piaget and Russian Lev Vygotsky. These two careful observers established a strong foundation for learning and composing theory. Most consider Piaget the father of cognitive development, but I think we must add Vygotsky to this designation and consider them co-founders of the field, at least regarding its application to the study of writing.

Piaget asserted that knowing is an interaction between the self and the environment. Development occurs, he observed, as a child alters mental structures to make sense of the world. His four "stages" of cognitive development have provided a framework for most of the work carried out in that area of study. Piaget's stages are designated: sensori-motor, preoperational, concrete-operational, and formal operational. As a child moves through the stages of cognitive development, she relies less on the concrete, physical world, and more on abstract representations. Accompanying the child's

reorganization of mental structures is the process of "decentering," becoming less egocentric, more aware of how others perceive objects, people and events. Learning, to Piaget, occurs when the individual ractively resolves discrepancies between old and new information, an echo of classroom theorist Berthoff's assertion that learning depends on relating the novel to the familiar. A reorientation must take place to accomodate new information. Donald Graves refers to the same concept when he speaks of a child's confidence in controlling language.

Children who have learned to revise, to treat information, language, and conventions as temporary, know they will be able to go back to deal with conventions successfully. (Graves 1983, 87)

Although Vygotsky died in 1934 when he was 38 years old, his Thought and Language was not translated into English until 1962. His observations of children as they learned, produced stages in cognitive development somewhat analagous to Piaget's: in the initial stage relations have not yet been determined among ideas; next is the "thinking in complexes" stage; and finally the true concept-formation stage. In discussing the development of the adolescent, Vygotsky touches upon an explanation for why some "novice" writers may be effective, while some "experienced" writers are not:

even after the adolescent has learned to produce concepts,...he does not abandon the more elementary forms; they continue for a long time to operate, indeed to predominate, in many areas of his thinking The transitional character of adolescent thinking becomes especially evident when we observe the actual functioning of the newly acquired concepts. Experiments specially devised to study the adolescent's operations bring out...a

striking discrepancy between his ability to form concepts and his ability to define them. (Vygotsky 1962, 79)

Vygotsky distinguishes here between recognizing an item as a member of a category and being able to describe or identify that category. He is defining here a distinction between cognition and metacognition.

While Piaget's findings form a foundation for much of the work undertaken in the broad field of cognitive studies, two of Vygotsky's concepts are directly applicable to writing, particularly writing toward understanding. The first concept, "inner speech" was presented in Chapter One. Vygotsky's second concept relevant to my theory is the Zone of Proximal Development (ZPD). Vygotsky felt that conscious control, the control Dewey felt was "inherent in experience," appears only at a late stage in the development of a function, after it has been used and practiced unconsciously and spontaneously. Before this control appears, action is a more direct, less reflective response to the world. Getting the learner to "use and practice unconsciously and spontaneously" a particular function (Vygotsky 1962, 90) is the first aim of instructional intervention; getting her to become aware of that function is the second aim. The discrepancy between the child's readiness for conscious control of a function and the unconscious use of that

capable peers." (Vygotsky 1978, 86)

Thus Vygotsky established a moving edge of conscious control just beyond existent cognitive development where learning takes place, where the learner may grasp an idea and make it her own. It is the responsibility of the instructor to determine where this edge is for the individual learner.

It is important for those trying to understand composing processes to know the basic theoretical positions of Piaget and Vygotsky. Writing demands the ability to think abstractly. Vygotsky's work in particular suggests instruction can be a significant factor in the development of abstract thought. Thought, language, and the action taken on experience, all contribute to the construction of knowledge.

But the highly systemized "stages" of development set out by Piaget have been questioned by Mina Shaughnessy, among others, as she looked for evidence of stages in her writing students. Vygotsky's warning of overlapping stages of cognitive development as an individual struggles to control concept-forming functions might explain the discrepancies Shaughnessy found between the expected Piagetian level of development and the writing abilities of her basic writing students.

Research in Writing

Turning now from the basic tenets of cognitive development, I will support the key elements of my theory of writing with evidence from research literature in cognitive

development. In studying this literature, we must remember that researchers are still feeling their way to determine identifiable elements of the writing process. Articles by two teams--Carl Bereiter and Marlene Scardamalia, and John R. Hayes and Linda Flower--comprise the core of literature produced by cognitive psychologists pertaining particularly to writing. While Hayes' and Flower's articles are very informative, they are mostly formulations of the psychological, behavioral and evidential components of the writing process. A small number of controlled experiments test instructional interventions based on speculated components of the writing process. A large proportion of the articles is simply the groundwork--formulating and defining concepts to be tested.

Hayes and Flower

I shall begin with the descriptive studies of Hayes and Flower based on protocol analysis¹--the careful study of a transcript of thinking-aloud requested of research subjects. The research of John R. Hayes and Linda Flower has concentrated on establishing the components within the individual's writing process. They establish definitions of possible procedures of the writing process through protocol analysis rather than conducting a controlled experiment in the traditional sense.

In "Images, Plans, and Prose: The Representation of Meaning in Writing" (1984), Flower and Hayes set out to formulate ways to understand what a thought is. If writing is accepted as a form of thinking by cognitive psychologists,

then they assert it is essential to define thinking in terms that can be agreed upon. This article explores the alternative ways people know or think about a subject. Flower and Hayes propose a "multiple representation thesis," similar to that elaborated in Chapter One under the Interpretation subheading. They refer to Vygotsky's "inner speech" as an example of thought unmanifested in words and suggest that much of the work of writing is the creation and translation of alternative mental representations of meaning. They go on to define "meaning," a concept all writers work with, as "a joint product of knowledge and purpose...formulated in the writer's working memory as she composes." (Flower and Hayes 1984, 122) They suggest this "current meaning," which may be only a distant cousin to the meaning of the finished text, should be distinguished from the larger, permanent knowledge structure of long-term memory. Meaning has everything to do with interpretation. We can determine our meaning only by drawing experiences into working memory and formulating connections between them, which is interpretation.

The cognitive aspect of writing is revealed to Flower and Hayes by evidence of "planning" in the protocols. Planning involves fluency (generating information) which then is organized with a particular goal in mind. Plans, the authors warn, may be fragmentary and not fully understood or integrated at any given point along the writing process. (124) The ineffective writer never gets her plans integrated enough to use them to proceed to the goal. To find evidence

of planning they turn to the thinking-aloud protocols of Allison as she prepares an article for Seventeen magazine.

Protocols give clues to what prompts the writer to write as she does. For example, (line 2), "I need to write something that pulls you in." (line 15) "Chocolate Banana. I don't think I'd get that risque for a Seventeen magazine." (126-127) Allison is obviously considering her prospective audience in order to shape her writing appropriately. In line 3, "What do I find most fascinating?", we find evidence of Allison drawing on an interpretation of experience to determine the best information to present based on her intention. All three lines show the multiple possibilities of instantiating her ideas. The effective writer chooses the appropriate symbolic form by which to represent any particular thought. The authors have discovered in their protocol analyses that the effective writer, in selecting words, recognizes the problem, not as a prose production task, but as a conceptual task. (151). The writer hones fluency plus intention and interpretative techniques.

While Flower and Hayes do not address the benefits gained from a collaborative setting, intention is a mainstay of their study of planning, and interpretation of experience constantly revealed in the protocols. Evidence of a dialectical style of seeking information is also revealed. Flower and Hayes warn that the inexperienced writer may expect good writing to flow naturally and effortlessly. The finished product of an effective writer appears seamless, but that does not discount the conscious application of effort

that has gone to accomplish it.

Bereiter and Scardamalia

Let us turn now to two experimental studies published by Bereiter and Scardamalia. The first study to be examined will be "Teachability of Reflective Processes in Written Composition" published by Carl Bereiter, Marlene Scardamalia and Rosanne Steinbach in 1984. A central aim in this teaching technique is to encourage students to reflect, which encompasses the dialectic and experience components set out in Chapter One.

The researchers first establish their concept of reflection. In their words:

Reflection is here viewed, following Piaget (1980), as a dialectical process by which higher-order knowledge is created through the effort to reconcile lower-order elements of knowledge. (173)

The hypothesis offered by the researchers in "Reflective Processes" is that reflection in writing is constituted by the dialectical interaction between "content space" (What do I mean?) and "rhetorical space" (What do I say?). The content space is comprised of various knowledge states

in which one works out opinions, makes moral decisions, generates inferences about matters of fact, formulates casual explanations, and so. Content spaces thus have wide use in daily life and are by no means limited to composition planning. (176)

In contrast, the other type of problem space, the rhetorical space, is specifically tied to text production.

The knowledge states found in this kind of space are mental representations of actual or intended text--representations that may be at various levels of abstraction. Whereas the goal state in the content space are knowledge (in the sense of warranted beliefs), the goal states in the rhetorical space are plans for achieving various purposes in composition. (176) The authors' assumption is that ineffective writers use the ability to transfer information from content space to rhetorical space, but lack know-how for the return trip making the order of presentation correspond to the order of idea generation, and limiting revision to cosmetic improvements. (178) Only if the return trip is made does the writer alter content space structure, thus making writing a means to learn, or change her stored knowledge.

It is important to understand the concepts of content and rhetorical spaces since these are the bases of all Scardamalia and Bereiter's and Flower and Hayes' formulations of the writing process. It is between these that the dialectic takes place, as does reflection. Some composition theorists object to this reduction of dialectic to what they consider "a pretentious bit of jargon for talking about form and content."² But I believe Berthoff's "sheep dog" dialectic is not only analogous, but the content/rhetorical space schematically represents basically the same idea. A writer must consider how her ideas are to be represented in order to present them most effectively. The "Reflective Processes" study hopes to verify that the end-product must be considered during the process of writing.

Scardamalia, Bereiter and Steinbach's study used two existing sixth grade classes in a high to middle income public school in an urban area to study reflective processes. Thirty students comprised the experimental class and thirty-two the control class. Instruction consisted of two 45-minute periods a week for fifteen weeks, the first ten weeks on opinion essay and the remaining weeks on factual exposition. Into the thinking-aloud, planning stage of composing, cues were inserted that stimulated self-questioning. The planning cues, drawn from printed cards, were divided into five categories: new idea, improve, elaborate, goals and putting it together. (180) The students were expected to consider which kind of cue they needed before taking a card from that category. The student randomly selected a card from the chosen category to stimulate reflection as she planned the composition aloud.

Modeling of suitable behavior by the instructor was continued throughout the instruction with discussions at the end of sessions summing up the thinking strategies exhibited. This constitutes a collaborative activity--members of the group used input from other group members to further their own thinking. "Dialectic" was explained to the students and they were urged to practice it. Dialectic was described as a matter of "rising above opposing arguments by producing an idea that preserves what is valid on both sides." (181) In so doing, the researchers employed one of the fundamental principles of creative thinking, combining disparate ideas into a unity.

Assessment was based on a pre and post opinion and expository essays (four essays) written by each subject. The protocols of six randomly selected students from each class were tape recorded as they planned each of the four essays. Two raters also rated a "major essay [written during class] on a scale from 1 to 9, 9 being most reflective. On this "major essay" written during four class periods, the experimental group averaged 5.43, compared to a control group mean of 3.35, with a score of 9 being the most reflective.

(182) In the pre and post essays, the experimental group scored significantly higher on the topical essay. This group also scored higher on the opinion essay, but not to a degree of statistical significance.

In their informal observations of the study, the authors noted two particularly relevant points. First subjects had to have more material than necessary to use goals for selecting ideas. If material was too sparse, subjects clung to it without considering the goal during writing. This would indicate that fluency in generating ideas and in generating text are prerequisites for considering goals during writing. Their second relevant observation was experimental subjects used their preparation time following intervention to generate an initial plan for a paper, then went to library resources for particular information needed, and recast their plan in light of new information gained. (187) By contrast the control group students developed their compositions directly from information available, "allowing the

information sources to dictate both the types of content and the general form of their essays." (187) Here we see evidence of the dialectic between content and rhetorical spaces resulting in a more effective plan of action, and eventually more effective text production.

In summary, this teaching study develops some concrete ways to encourage reflective processes in students. By specifically identifying helpful planning clues, as well as labeling them as to the way they could be used, students became familiar with the processes they used in composing. By elaborating the concept of "dialectic" the students began to learn it was possible to integrate seemingly disparate ideas into a cohesive whole. Further, the observation that bulk of material from which to write is a factor, clearly indicates the importance of fluency in the effective writer.

In another article, "Cognitive Coping Strategies and the Problem of 'Inert Knowledge'" (1985), Bereiter and Scardamalia suggest a cognitive basis for fluency--"flexible access."³ If there is more than one way to retrieve a particular bit of information, the odds are better it will be retrieved. These several paths to retrieval can be achieved by representing that information more than once in long-term memory. The authors take it one step further and suggest that the conscientious teacher sees to it that there is "congruity between the way students encode knowledge on acquisition and the retrieval requirements of course assignments and tests." (67)

Based on the work of Valerie Anderson, the authors

suggest "metamemorial search" as a means to establish flexible access. Bereiter and Scardamalia define metamemorial search as "high-level"--yielding knowledge about knowledge, rather than knowledge for direct use. Anderson ran an experimental test of a technique to induce metamemorial search. (Anderson, Bereiter, and Smart 1980) The experiment involved subjects developing a list of words they might use in writing an essay on a given topic. Subjects were not required to use the words in the essay, simply to list them prior to writing. After twelve hours of practice in using this technique for various genres, this treatment was shown to double the overall output of words in compositions and to triple the number of uncommon words, which was taken as an index of content variety. Fluency is improved with the use of this technique.

The authors describe the metamemorial search as useful for solitary directed thought. But they also describe how the collaborative element of composing can serve the same purpose. "When thinking goes on as a joint activity people can start out cold and activate each other's knowledge stores through the spontaneous effect of things they say." (71)

We see evidence of support for each of the key elements of my thesis in these two studies by Bereiter and Scardamalia. They have worked in their own way to develop instruments for instructional intervention. Flexible access (fluency) is necessary to generate enough material to support a dialectical method of composing. Reflection (interpretation of experience) promotes the dialectic necessary for

transformation of knowledge into effective writing. Intention in the form of writing plans is crucial to organize ideas into a cohesive pattern. Collaboration supports the metamemorial search necessary for higher-order thinking skills to be developed and is called into play when desirable behavior and techniques are modeled.

Palincsar and Brown

Another study which tests the effectiveness of specific instructional interventions was conducted by Annemarie Sullivan Palincsar and Ann L. Brown, "Reciprocal Teaching of Comprehension-Fostering and Comprehension-Monitoring Activities" (1984). Although this study is a reading comprehension study, it is applicable to writing as well. The writer reads over what she has written in order to determine where she is going with her text. She must not only read her work in progress to maintain her connection with the subject, but she must comprehend her subject. Without this comprehension, or understanding, the writing is ineffective.

Palincsar and Brown set out to establish strategies for "improving students' ability to learn from texts." (1984 118) In establishing the ground for their study, they formulate the features of the "mature learner," which we could also call the effective writer. Mature learners, they state, question and elaborate their own knowledge and the content of the text, testing their degree of understanding by thinking of counter-examples and testing possible generalizations. These learners then attempt to apply this

new-found knowledge to correct their misunderstandings. (119-20)

Palincsar and Brown consolidate these strategies into four concrete activities that a novice, or ineffective writer, can engage in: summarizing, questioning, clarifying and predicting. These activities are each higher-order thinking skills which help cultivate interpretive skills in the writer. The authors are aware that, "the more difficulties the learner experiences initially, the more fleeting and bounded are the effects of training." (122) As a result, they set their training sessions up to 1) force the student to be active, 2) provide feedback in the utility of that action, and 3) provide instruction in why, when, and where such activities should be applied." (122) Metacognition is an essential element of the collaborative aspect of this study.

To set up such an instructional situation, the authors draw upon Vygotsky's notion of the Zone of Proximal Development. Palincsar and Brown use the term "expert scaffolding" to refer to the mediation Vygotsky thought helpful in learning development. They use expert scaffolding to support the novice as she works toward understanding: "a novice carries out simple aspects of the task while observing and learning from an expert, who serves as a model for higher level involvement." (123) The strategy, "reciprocal teaching," is dependent on social context. They mean by "reciprocal teaching," teacher and student taking turns

leading a dialogue, generating summaries and predictions, and clarifying complex sections of the text. The teacher demonstrated appropriate activities; students were encouraged to participate at whatever level they could. (124) These activities took place in a "natural dialogue", a concept similar to Trimbur's idea that writing collaboratives take advantage of a naturally occurring learning situation in which learners support each other to negotiate the academic gauntlet.

The study consisted of twenty-four seventh grade students, who read at least two years below grade level and had a baseline score of below 40% on the experimental task. These twenty-four were divided into four groups: one group participated in reciprocal teaching, one involved locating information, another practiced with daily assessment passages, but no intervention, and finally a control group. There were six students in each of the four groups. The particulars of pre-, post-, and maintenance testing are given, and the details of activities in the local information group.

Over a period of twenty instructional days, the average score for the reciprocal teaching group was raised from 40% to 75% correct on comprehension tests. This same group improved from 20% to 60% on "generalization probes" over the period of intervention. Palincsar and Brown tested transfer of training to other materials and found the greatest improvement in deleting redundant and trivial material and assigning importance to topic sentences, both essential to

effective interpretation. The students were able to discern what was relevant to the main point, a skill certainly transferable to writing. On a standardized reading test administered three months after the training was completed, the average gain in reading ability for the six reciprocal teaching students was fifteen months, showing that the strategies learned collaboratively were retained.

As the intervention progressed, the difference in daily comprehension scores between the reciprocal teaching group and the other groups grew larger. The reciprocal teaching intervention led to dramatic improvement in student scores whereas practice taking tests, and even the locating information intervention did not result in reliable improvement. (144)

In a second study reported in this article, Palincsar and Brown used already established seventh grade classrooms and trained the classroom instructor in reciprocal teaching techniques undertaken in the previous study by the researchers. In contrasting dialogue samples from the second study, on Day 3 students responded exclusively to the teacher, but by Day 13, the students were responding to each other with encouragement from the teacher. This study has significant implications of support for the collaborative method of learning. It has been shown that students can learn from each other, after strategies are modeled by the instructor.

Teachers participating in the second study indicated

they would add reciprocal teaching to their instructional repertoire. This is particularly interesting since, initially, all teachers participating expressed skepticism regarding these students' ability to participate in reciprocal teaching, much less gain from it. The teachers also reported an overall improvement in their students' "thinking skills."

Students also responded favorably to reciprocal teaching in a post study questionnaire. They particularly enjoyed the opportunity to assume the role of teacher, i.e., to assume authority.

By using Vygotsky's work as a starting point, these researchers developed a classroom procedure that works to improve understanding. They used Vygotsky's emphasis on social context to establish a learning situation and his ZPD as the guiding framework for their teaching. These students improved their reading comprehension scores by an average of fifteen months, when each was at least twenty-four months below the standard at the start of training. It helps a writer to write effectively if she reads with comprehension. Reciprocal teaching is an effective strategy for employing collaboration. However, directions and suggestions must be clear and specific to be effective, a parameter George Hillocks also found important in his analysis of writing instruction techniques.

Hillocks

Hillocks' comprehensive review of research on the teaching of composition, "What Works in Teaching Composition:

A Meta-analysis of Experimental Treatment Studies" (1984) is an analysis of all experimental treatment studies reported in the United States between 1963 and 1982. He categorizes the studies into four "modes of training": presentational, natural process, individualized, and environmental. The presentational mode is the most prevalent, in which the instructor is the authority presenting material. Natural process is characterized by generalized objectives, and became popular during the 1970s. This mode provides the natural setting called for in Palincsar and Brown's study, but not "expert scaffolding." The individualized mode consists of tutorials and/or programmed materials.

Hillocks found the environmental mode was three times as effective as any of the others. (149) The environmental mode is characterized by: 1) clear and specific objectives, such as to increase the use of specific detail and figurative language; 2) materials and problems selected to engage students with each other in specifiablc processes important to some particular aspect of writing; and 3) activities, such as small group problem-centered discussions, conducive to high levels of peer interaction concerning specific tasks. (144)

The narrowing of focus suggested by Hillocks' first point above, that materials must be specific, goes along with the description of my key elements, experience and intention. Experience means focusing consciously on a subject, as in meditation. By suggesting clearly defined areas of focus, stronger connections are made in memory without constraints

which may foil the attempt to retrieve that information later on. Focusing attention on specific materials also helps the writer develop the intention necessary to work through to the end of the writing process. Hillocks' second and third characteristics of the environmental mode clearly support a collaborative setting for promoting writing. His third characteristic includes problem-centered discussions. Not only is collaboration required here, but interpretation also. A problem situation calls for defining the terms and using higher-order thinking skills to interpret information.

Hillocks does not address the structure of the groups he advocates other than stating material should be selected with group work in mind and carefully specified rather than leaving choices up to the student. As is elaborated in Chapter Three and Appendix C, I advocate the instructor establishing the makeup of each group and introducing guidelines for group response. Perhaps more in-depth studies of the effects of cultural and gender composition in writing groups is called for to guide instructors in composing groups within their classrooms.

"Focus of instruction" was another area of Hillocks' analysis. These included: traditional grammar, mechanics, model compositions, sentence combining, inquiry and free writing. His findings here were especially informative. Students in the grammar/mechanics treatments scored .29 of one standard deviation less than their peers in no grammar or mechanics treatments. Inquiry, a focus relying heavily on

interpretation of information, is .56, the highest mean effect size for any instructional focus. (156-58) The effect size was determined by dividing the difference between post-test scores, adjusted for the difference between pre-test scores, by the pooled standard deviation of post-test scores for all groups in the study. The author and two advanced graduate students coded the material for the presence or absence of certain variables. (136-137) Clearly, according to Hillocks' findings, the higher order thinking skills required of inquiry give a greater gain than attention to any other instructional focus, particularly grammar and mechanics, which appear to have a detrimental effect. It would be interesting to discover what percentage of success Palincsar and Brown reported depended on their "focus of instruction."

Summing Up

Much of the research reviewed here has intended to establish terms pertinent to an understanding of the writing process. But, we can see some patterns have emerged which corroborate the key elements for writing toward understanding set forth in the Introduction. The need for basic fluency is established. Palincsar and Brown even required a minimum fluency (80 wpm) from their readers. From the others we learn that insufficient information from which to write often leads to ineffective writing. With no material from which to make a writing plan, the writer proceeds hand-over-hand along the material that first comes, not necessarily pertinent to the

desired writing goal. While we have examined no research on journal writing as a technique to develop fluency, it seems a viable technique to promote fluency to this writer.

Discovering the correlation between regular journals and fluency would be a useful study since journal writing is so prevalent at every level of instruction.

An entire study, "Teachability of Reflective Processes in Written Composition," deals with my concept of experience. Scardamalia, Bereiter and Steinbach determined reflection was teachable and evident in writing samples after their intervention. What must be determined is whether this individual reflectiveness can be translated into more effective writing, which is nearly impossible to quantify.⁴ Since experience and reflection are such personal qualities, they are more difficult to see, except by the use of thinking-aloud protocols which may bring about a different end-product than writing conducted without thinking-aloud. This possible disruption of the individual's natural writing process constitutes an objection to protocols which has not been resolved.

My third key element, collaboration, was supported particularly by Palincsar and Brown's study of reciprocal teaching. Scardamalia and Bereiter report collaboration a relevant aspect in their writing research, as does Hillocks, although I am not aware of these authors comparing individual writing projects with group assignments to determine relative effectiveness.

Interpretation is probably the most widely acknowledged

component of writing included in this thesis. "Once immediate perceptual memory decays (in about 2-4 seconds), the mental image people retain is a meaningful interpretation." (Flower and Hayes 1984, 130) We can not retain a memory without some form of interpretation to record an impression. Understanding can be considered a reorganization of perception. If we simply write our perceptions without organizing from a high enough distance (higher-order thinking skills), writing will be ineffective.

There is nearly always more than one way to represent an idea. Encouraging multiple representations encourages higher-order thinking skills and more effective writing. But, what contributes to the type of representation a particular person chooses at any given time? If writing instructors were aware of different personality types contributing to differing writing styles, including their own, more credit might be given interpretations which differ from the instructor's. It is important that instructors acknowledge different approaches to writing. As in the Wason-Lowenthal study cited in Chapter One, some writers need a specific outline from which to work, while others can use only the vaguest plan, waiting until they have written to determine just what they have to say. Research in acceptable alternative writing styles has begun, but needs much attention.

In Chapter Three, applications of this thesis suitable for the classroom will be suggested in the form of specific classroom activities. These are applications of the six key elements of effective writing proposed in Chapter One.

1

The first mention I have found of the use of "protocols" is in I.A. Richards' Practical Criticism, published in 1929. Richards had been an admirer of Wittgenstein's work in their concurrent tenures at Cambridge, and adapted Wittgenstein's protokollsätze from the Tractatus Logico-Philosophicus for his own analysis of candid student responses to an unidentified text. (Berthoff, 1985, 56 and 74)

2

Correspondence to the author from Ann Berthoff
February 18, 1988.

3

"Flexible access" is a term borrowed by Bereiter and Scardamalia from Brown and Campione in their article, "Inducing Flexible Thinking: A Problem of Access" in Intelligence and Learning, edited by M. Friedman, J.P. Das, and N. O'Connor (515-29), Plenum.

4

Two articles which delineate evaluation models currently in use and decry the need for better widely accepted techniques are "Procedures for Evaluating Writing: Assumptions and Needed Research," Lee Odell and Charles R. Cooper, College English 42:1 (September 1980), pp 35-43 and "Written Composition: Toward a Theory of Evaluation," Anne Ruggles Gere, College English 42:1 (September 1980), 44-58.

5

George Jensen and John DiTiberio have written an article on Myers-Briggs character types as they correlate with various writing styles. "Personality and Individual Writing Processes," College Composition and Communication, 35:3 (October, 1984), 285-300.

There seems to be no substitute for practice,
and for the constant question: "What exactly do I
mean by that?"

-P.C. Wason

CHAPTER THREE

CREATING CONNECTIONS CRITICAL TO UNDERSTANDING

Key elements of the writing process have been proposed in Figure 1. In Chapters One and Two, support for these key elements has been presented from composition theorists with direct experience in the classroom, as well as from researchers working in cognitive development. Writing strategies for instructional intervention have been suggested broadly, such as Gordon Rohman's applications--the journal, meditation and work with analogy. In this chapter, I shall suggest specific activities for developing effective writing, backed by the strategy which applies to each activity. These strategies and activities address each aspect of my theory--fluency, experience, intention, dialectic, collaboration and interpretation. The following material can be adapted for use with most levels of writing, from elementary to adult, from inexperienced to experienced writers. If we consider that writing can always be improved, since a subject can be looked at from an infinite number of perspectives, these activities can be useful even for professional writers. I will draw from material of classroom theorists and cognitive developmentalists as their work suggests specific strategies to guide a writer to better understand what it is she is thinking and writing.

The way we compose determines the effectiveness of the finished product. This thesis holds a writer must write often and generously to develop fluency; experience her subject

from the inside as completely as time and mental capacity allow; maintain intention as she works, integrate new thoughts with stored knowledge (experience) in a non-linear, dialectical procedure; understand knowledge as something agreed upon within a social context; and value social setting as an aid to foster alternate interpretations.

John Dewey in Education and Experience (1938), provides a conceptual rationale for collaborative learning. Dewey speaks of the "organic connection" between education and experience, and states learning must occur through the interaction of learner and the wider social environment. I shall use a structure for activities I propose which guides the learner from experiencing the inner world to experiencing the outer world as she seeks knowledge. First, a learner must be aware of the knowledge she possesses. She must experience the inner world before she can make connections between inner and outer world fundamental to understanding.

In suggesting applications of the six elements, I shall first introduce activities that explore the inner world; second, the transition from inner to outer; and finally the outer world drawn within as grist for developing minds. There is much overlap between inner and outer worlds, since each grows in response to the other--inner world incorporating what has come from outside, outer world changing in response to input from many individual inner worlds. A dialectic between inner and outer worlds is essential. Vygotsky's concept of "inner speech" illustrates the natural dialectical quality of inner and outer awareness, the development of one

naturally furthering development in the other.

Instead of appealing to the adult, children appeal to themselves; language thus takes on an intrapersonal function in addition to its interpersonal use. When children develop a method of behavior for guiding themselves that had previously been used in relation to another person, when they organize their own activities according to a social form of behavior, they succeed in applying a social attitude to themselves. (Vygotsky 1978, 63)

Direct applications for the writing classroom follow. The theoretical focus is elaborated as the "strategy" for each application. Directly following each strategy is an instructional intervention designed to implement that strategy. The instructional intervention is designated an "activity."

INNER WORLDS

Starting to Write

Strategy: Perhaps the first obstacle an instructor encounters is the writing student's belief that she has nothing to say. Students are more familiar with newspapers and magazines than any other form of writing. The student's line of thinking goes something like, "Articles written in newspapers and magazines must be about important things or they wouldn't be published, right?" But, the trick is, that anything looks important simply because it is published. One tactic to show a student that she does have something to say, is to enumerate categories of subjects which the student can fill in with her own information. By using this list as a source for writing topics, the student may see several

subjects she knows about and has something to say about.

Activity: A tool which can provide such a student source list is an interest inventory. Stephen Tchudi suggests the following topics provide a wide range of possible subjects for further exploration in writing: friends, enemies, people you admire, special places, fond memories, not-so-fond memories, worries, strange-but-true stories, sports, university life, books, television, music, film and what matters most. (Tchudi 1980, 44) Students are asked to fill in several items in each category, providing themselves with enough sources for topics of interest to keep them going, at least for one semester.

Activity: Another source for prompting student writing might be a list of "sentence starters." This list comes from Simon, Howe and Kirschenbaum's Values Clarification. A Handbook of Practical Strategies for Teachers and Students (1978). These values clarification exercises encourage students to discover what topics they feel strongly about--a helpful attribute to consider when writing. A few examples are:

- On Saturdays, I like to...
- If I had 24 hours to live...
- If I had my own car...
- I feel best when people...
- If I had a million dollars I would... (Simon, Howe and Kirschenbaum 1978, 241)

See Appendix A for a list of sentence starters suggesting topics for writing. A class period might be spent writing endings for these sentences. These finished sentences then serve as a reference list for possible future writing

topics. Students can go through and place an asterisk by sentences they feel strongest about. These starred items can provide sufficient material for a variety of writing assignments.

Activity: Another tactic to help students understand the direct value of writing, is to suggest they list a variety of reasons and settings for writing; i.e., notes when someone is not at home, grocery lists, school assignments, letters to friends or relatives. First, list actual occasions when something has been written over the previous two months. The next step is to guess at some writing that might be undertaken in the future. Activities a person would like to do should be included even if they lack activity-related ability. An assignment here would be to actually write out one of the items from this list. The point to be made in these starting exercises is the writer must care about whatever is being written. The more connected a writer feels to a subject, the more connections the writer will be able to make in elaborating her subject.

The Journal

Strategy: The ubiquitous journal is a testament to the notion that knowing inner worlds is relevant to conducting our lives effectively. Many instructors of composition use some form of journal as a fundamental step in learning to write effectively. But "the journal" means something slightly different to each. Mina Shaughnessy, for example, writes of "encouraging in countless ways the habit of writing things

down (but not necessarily 'up' as finished products."

(Shaughnessy 1977, 88) She argues that students do not yet respect, or even recognize, their own "inner promptings that generally reveal to writers where their energies lie."

(Shaughnessy 1977, 82) She encourages fluency by insisting that something be written every day--something for the writer, not for publication.

Shaughnessy does not call her required daily writing a journal, nor does Donald Murray. In fact he recalls his attempts at literary journal keeping were farcical and ultimately useless to him. What he settled on instead is a "daybook." Murray speaks of the physical qualities of his daybook as fitting into his life unobtrusively. He uses an unpretentious spiral bound notebook with green paper in case the light is bad. He requires the notebook be a size that fits in the outside pocket of the bag he carries everywhere with him. He feels the smaller size (less than the standard notebook paper, 9-1/2 x 11 inches) is less imposing and more apt to be opened for the casual notation. Appendix B lists possible uses for a daybook. These are examples of how Murray uses his ever ready daybook:

- questions that need to be answered
 - titles of books to read
 - rough drafts of letters to be revised for sending
- (Murray 1987, 11)

Murray proposes the daybook be kept nearby at all times, where the student can have fun with it at odd moments. He uses his daybook as a planning center, trying on ideas for size and discarding those that don't fit.

Ann Berthoff also suggests her students write regularly in a notebook. But her notebook is much different than Murray's. One of Berthoff's fundamental beliefs is that one cannot write effectively without reading widely. She requires her students to keep a "dialectical notebook." In this notebook, the writer records parts of readings she feels are particularly relevant on the left-hand page. On the opposing right-hand page, the writer responds to the text, posing questions and arguing with it. By studying her dialectical notebook, a writer can easily make connections between the various readings, and she has a good set of working notes from which to write on the concepts elucidated in the readings.

If Murray and Berthoff's record-keeping methods are combined, we might come up with a "dialectical daybook," slightly more structured than Murray's, with more room for extraneous musings than Berthoff's.

Strategy: Readings required in a writing class must be selected by the individual instructor to suit her taste and the needs of the class. An instructor might choose excerpts from the world's great literature--short stories, poems, folk tales, or essays, newspaper and professional journal articles. One item I would particularly recommend is a piece of writing in progress by a professional. This work in progress would be included to illustrate that messiness is a standard quality of "good writing." Seeing a work in progress by an established authority who has "important things to say," can encourage a student who feels writing is effortless

for the experts. The messiness of writing must be recognized by those hoping to become more effective writers. P.C. Wason thinks one of the reasons people balk at writing is "we tend to regard any serious piece of writing as a 'natural process' like childbirth or defecation--something which has to be waited for, and which takes over at the right moment." (Wason 1980, 134) It helps students to learn that writing doesn't "just happen," even for the most successful writers.

Strategy: In keeping with my hypothesis that fluency is encouraged by flexing the writing muscle, we must consider Peter Elbow's technique, "freewriting," which he considers the most effective way to improve writing. The most important feature of freewriting is the separation of the generation of ideas from editing. Elbow has argued for the need to undertake generating and editing separately. The activities are counterproductive when undertaken simultaneously and often result in "writer's block" in the professional writer or ineffective writing in the student. Freewriting often leads a writer to discover in her writing something other than what she set out to write. The effective writer is ever ready to exploit these accidents of discovery.

No crossing out is allowed in freewriting. The idea is to keep the pen moving steadily across the page, even if you have to write nonsense for a time. Freewriting is a preliminary technique to writing toward understanding. The idea here is no constraints, but simply to get the apparatus that generates writing greased up and set in motion.

Activity. At the beginning of each class, students are directed to write for ten minutes in their dialectical daybooks. This writing may be specifically directed to a subject to be taken up that day; it may be something from the immediate environment, such as a freak snowstorm; or it may be the jotting down of a visualization guided by the instructor just prior to the writing.

TRANSITION BETWEEN INNER AND OUTER WORLDS

Strategy: In exploring the transition between an event that takes place outside ourselves and the response to that event within us, we may consider the "conversion" that Gordon Rohman considers essential. An event is converted into an experience. Rohman also speaks of the "responsibility" an effective writer assumes in discovering her own relationship to a particular subject, or idea. If we break down responsibility into its component parts--response-ability--we see the effective writer is able to respond to a subject. In responding to a subject, a writer forms a dialectic with the subject and searches out connections between her subject and herself. These connections will be unique to the individual. Since knowledge is constructed in a social context by connections between the inner and outer worlds, the unique connections critical to an individual's understanding contribute to knowledge within the social context.

The writer is seeking to experience events and ideas through the response originating within her. This is the

essence of creativity--responding to a situation from our own context. Rohman suggests using some of the principles of religious meditation to achieve this end, stating the discovery inherent in meditation as his aim. Although James Moffett picked up on Rohman's meditation suggestion, many writing instructors shy away from anything with a religious connotation, despite the usefulness of the technique. So perhaps we can ameliorate the connotations of "meditation," by taking a cue from Scaradamalia, Bereiter and Steinbach's study of reflective processes, and call the procedure simply "reflection." We will use the principles of meditation, but call it reflection to bypass objections to "meditation" which discourage writers from using the technique.

Reflection is the response of one entity to another through the context of the responding entity. An exercise that has been used to encourage creative thinking is visualization--again taking something from without within to experience it fully. I believe these techniques can be applied with great benefit to a writing class. Some meditations, reflections, or visualizations may be guided by an instructor, or they may be suggested and left to the individual writer to explore freely. The terms meditation, reflection and visualization are meant to be interchangeable within this thesis.

Activity: A guided visualization which I experienced at UMass/Boston's Critical and Creative Thinking Program, was conducted by Professor Delores Gallo. I feel this activity is appropriate for an early, perhaps the first, writing class.

Students are directed to envision themselves in the future having gained fame from an achievement important to them. Each student has to fill in the achievement for which they became famous. The guide then directs the students to visualize what they would be wearing, and with whom they would be working--what kinds of people--and in what environment. Students then examine their response to being famous. Immediately following this guided visualization, students are directed to write an article about themselves appropriate for a particular section of a newspaper. The article could be an obituary, front page, business section, travel, etc. The instructor then collects the articles and redistributes them anonymously, asking each student to read the paper handed to her. Students learn something about other members of the class, but not specifically who has written what. If students are told they will remain anonymous before writing their articles, they may be more encouraged to write freely, safe in anonymity. This activity introduces writing as fun, rather than an activity that results in red marks on the page. Further work with this technique can be undertaken with writers reading their own papers once trust is established in the classroom, students become accustomed to the instructor's style, and comfortable with other class members.

Strategy: This reading of anonymous papers is a way to introduce the writing group. If papers are first read anonymously by the instructor, or by fellow students, class

members will see responses to their work separate from a response to themselves. This also establishes the audience for student writers--their classmates, not the instructor. The class, at this time, can be encouraged to respond to writing by taking notes as writers read their of papers. Students are directed to respond positively at this point, to note phrases or particular words used meaningfully, variety of sentence structure, or that the writer seemed particularly well-versed in her subject. Students are never allowed to respond globally, "I like it," or "It's good, or nice." Specific substantive responses are expected.

By the second week, students are asked to read their own papers and respond according to guidelines distributed. These guidelines may be drawn from Appendix C which contains a list of responses to writing developed by the Bard College Institute for Writing and Thinking. Appendix C also contains a list of possible responses a writer can request. As the semester progresses, students are separated into groups of three to five writers who listen to and respond to each other's writing following the response guidelines. Groups do not remain the same each time, but vary throughout the semester. By modeling appropriate responses, the instructor can then work with one group at a time while the others work on their own, or even leave the groups to work totally autonomously.

Observation

Strategy: In order to reflect on something, the writer

must have an idea of the essence of that something. An ancient technique for understanding something observed, is to study it at great length and in great detail, thereby incorporating--bringing into the body--the essence of the something being observed. Zen koans provide such a focus of attention on a particular idea with no immediate resolution expected, just a steady reflection on the essence of the koan. If perception fades almost immediately, then all our images of "events" are interpretations. The more reflection we give our interpretations, the more they come to fit the pattern of the "event" they represent. By "event" here, I mean anything occurring in the outside world, whether a person, an object, or a happening. As we attend more carefully to detail, we are better able to abstract the essence of the event, making it more accessible for retrieval. The idea of union with an object under intense focus is relevant here. This is the principle of meditation about which Rohman and Moffett speak.

Activity: A means to careful observation might be the studying of some "thing" over a period of time. Items from nature--pine cones, shells, bird wings or claws, animal teeth or skulls--are to be brought into class or distributed by the instructor. These items are then the focus of a freewriting session. The student writer freewrites in the left hand side of her daybook. The assignment is to respond on the right-hand page of the daybook to the freewrite on the organic object that evening in ten minutes or so. Then, the student writes another freewrite on the left-hand page which builds

on the response to the original. This procedure continues for five days, culminating in an assignment to be turned in which synthesizes the most pertinent parts of the freewrites and responses in two typewritten pages. This assignment was used by Professor Ann Berthoff in her Philosophy and the Composing Process class at UMass/Boston.

Naming

Strategy: Any individual must name the things she perceives. In so doing she has connected an item from the outer world with existing information in long-term memory. At the same time she has interpreted the item, she has related a thing without to a category of things within her mind. Naming creates a matrix from which to compose. It is a chaos of labels or categories through which the writer searches for connections critical to an emerging idea. It is only by relating names or categories to each other that we learn. Things are interpreted in relation to other things, context is required for there to be meaning. We will examine "relations" more extensively further on with suggestions for applications of analogy.

Following is an example of finding a category from a third grader.

I can play huhwayun music on my gettar. It is like when grandma took a sick spell. Now she was shut up tight as a jar with a lid on. She gave a scream. When she gave that scream it was high. But it got lower and lower. Huhwayun music sounds something like when she was getting lower. (Macrorie 1980, 13)

This third grader made fresh connections from his social

context to categorize Hawaiian music. Although it is his context, most readers find no trouble relating to his connections.

Activity: To observe how differently people name the same object, select one of the organic objects from the previous activity and display it so all can see. The students then name all the qualities relating to that object. Allow 10 minutes or so. Then go around the room recording on the board all new qualities named. Note which qualities seem similar and which seem the most different. Students then choose two qualities they feel are most different from one another and make a sentence using those two words. These two quality words do not have to be used in the context of the object originally observed. Students can then write a two page essay using some combination of qualities from their list, trying to use those qualities in a different way than they applied to the original object.

Strategy: To encourage students to seek fresh connections, as the Hawaiian music player did, attention can be drawn to writing with cliches. Cliches usually describe a situation, but in tired terms. Phrases that are used often and are familiar may sound appropriate to an inexperienced writer. Breaking this security with what is familiar is a step along the path toward effective writing. Phrases like "out of a clear blue sky" and "down in the dumps" may describe particular situations, but other descriptive phrases may be developed to say something new about the situation.

Appendix D contains a list of clichés commonly found in print. Appendix D also contains a list of fresh references to familiar situations. Examples from Appendix D may be introduced in class to illustrate the difference between a cliché and a fresh description.

Activity: Designate an area in the dialectical daybook for clichés found in class readings, other students' papers, and periodicals. Concentrate on adding to this list for two weeks to total twenty examples of clichés. Alongside the clichés, sources will be noted. At the end of two weeks, students bring to class five "stale" clichés along with a replacement list of five "fresh" relationships describing the same set of circumstances. In class, students write an essay about two pages long containing three of these fresh relationships from different sources, combining them in relevant contexts under a topic selected from their source list.

OUTER WORLDS

Having established strategies for drawing the outer world within, let us now explore the outer world, knowing we can learn more by experiencing it within. In the naming activity above, one step was to take the most diverse qualities and use them together in a sentence. This use of disparate items at once is an age-old device to create interest in writing, as well as coherence, and ultimately, a deeper understanding. These diverse qualities begin with the simple opposition and develop into analogies and metaphors.

Oppositions

Peter Elbow's latest book, Embracing Contraries (1986) takes as its focus the synthesis of opposing ideas. One of Elbow's chief "contraries" is the necessity to generate ideas with abandon, at the same time editing for clarity. How do we immerse ourselves in an idea at the same time considering an audience? Contraries need to be addressed for effective writing. "Freewriting" was developed by Elbow as an end run around the oppositional nature of generating and editing. First comes generation, then editing. More generation may follow as the writer shapes a dialectic between his freewritten work and his later revisions. This is an ideal synthesis of these opposing aspects of effective writing.

Strategy: There are several forms oppositions may take in writing. Not only are there words with opposite meanings, such as hot and cold, left and right; but there are long and short sentences; fancy words and simple words; and differing rhythms, staccato or smooth. Here is a good place for samples of writing to be studied and oppositions picked out. This selection from Zora Neale Hurston gives examples of several opposites at once.

The springing of the yellow line of morning out of the misty deep of dawn, is glory enough for me. I know that nothing is destructible; things merely change forms. When the consciousness we know as life ceases, I know that I shall still be part and parcel of the world. I was a part before the sun rolled into shape and burst forth in the glory of change. I was, when the earth was hurled out from its fiery rim. I shall return with the earth to Father Sun, and still exist in substance when the sun has lost its fire, and disintegrated in

infinity to perhaps become a part of the whirling rubble in space. Why fear? The stuff of my being is matter, ever changing, ever moving, but never lost; so what need of denominations and creeds to deny myself the comfort of all my fellow men? The wide belt of the universe has no need for finger-rings. (Hurstun 1942, 279)

Activity: As an introduction to oppositions, students can be instructed to pick out opposites from the Hurston quote. Note as examples for the class, "the wide belt of the universe" contrasted with tiny "finger-rings"; the short, abrupt, simple question, "Why fear?" in the midst of long phrases on the origins and endings of the universe. Oppositions can be single words with opposing meanings, or opposite stylistic elements. Give students ten minutes to pick out some opposites, then continue with the activity below.

Activity: Freewriting preceding the above activity might be directed to begin with one end of a scale and end at the other: i.e., light to dark, or high to low, or red to purple, or infrared to ultraviolet. Ask for volunteers who feel they captured both ends of the continuum. Follow up with another such exercise after the Hurston discussion.

Activity: Select someone listed under the category of "friends" in the initial interest inventory. List some qualities of this person. Now see if their opposites are true, at least some of the time. Think of at least three stories known about that person. Write them up to show how this person exhibits the opposing qualities that have been noted. This assignment might be longer than the others mentioned- perhaps five typed pages.

Strategy: Since, initially, correctness is not an issue in writing for meaning, instructors must comment on the writer's meanings, rather than misspellings or grammatical errors. Letter grades will not be attached to assignments for the first third of the semester. Students will be encouraged to revise their work and it will be read and commented on by the instructor after readings within the small groups. At the close of the semester, students can choose five of their two page papers to be graded. Longer papers, like the one on the friend's oppositional qualities, may be graded after students have commented on them in small groups, and taken them home to revise them. All assignments are checked off on a master list and completion of all assignments counts for a percentage of the final grade.

Analogy

Strategy: Following the synthesis of oppositions, the analogy is addressed--seeing one thing in terms of another. The classical analogy form, $a:b=c:d$, sets up a correlation from a to c as b relates to d. They relate simultaneously, forming connections by being placed in proximity. "A" represents c in the light of its relationship with b, and c's relationship with d. The analogy--recognizing relationships--is the basis of forming concepts. Concepts are systems of organized information which we return to again and again to find forms for our ideas. For an analogy to be established, the student must "know" the meaning of at least two of the components. She must have named them, or their qualities, and

categorized then to note their similarities. It is possible "a" and "c" may be items not usually taken as similar, but any two items may be "forced" to have something in common, no matter how obscure. The following activity is an example of the creative thinking technique, forced relationship.

Activity. Illustrate how any two words may be shown to share a quality by taking the first and last nouns from a paragraph, such as the paragraph preceding--"analogy" and "relationship." That one is easy. Let us try something harder. "Synthesis" and "interpretations" are the first and last nouns in the paragraph preceding the last. Show how each term must be defined and understood before a connection can be constructed between them. If "synthesis" is a blending, and "interpretation" is the meaning we construct from a set of symbols, then we could say that by interpreting symbols, we are actually synthesizing our knowledge with the knowledge of the symbol maker to construct an interpretation. It would be advisable to choose simpler examples initially, to enable students to form their idea of analogy with everyday words referring to concrete objects, rather than abstract concepts which take so much concentration to grasp. Take examples from student writing to show that any two words may be shown to be related, not just examples manufactured for class.

Strategy: Another means to observe how ideas are formed into concepts, is the "persona paraphrase." Writers often have difficulty seeing alternate ways to connect information. By practicing the persona paraphrase, the writer learns that

she can form relations between words by syntax. The procedure is to change the subject of a complicated sentence and thereby note all the relationships established in the original, correlating them with the new subject. The student then substitutes new words for all the nouns and verbs in the original sentence, making certain substitutions result in a coherent sentence. The persona paraphrase encourages the writer to immerse herself in both the given sentence and her own idea in order to construct the connections critical to the new subject. The student has thus constructed analogies between the original nouns and verbs and her substitutions. Make certain this point is clear. Phyllis Brooks developed the "persona paraphrase" in her article, "Mimesis: Grammar and the Echoing Voice."

Like the black duck and the crow, the green heron is at once a wary and venturesome bird, endowed with sufficient intelligence to discriminate between real and imaginary dangers and often making itself at home in noisy, thickly settled neighborhoods where food is abundant and where it is not too much molested.

If a man meditate upon the universal frame of nature, the earth with man upon it (the divineness of souls excepted) will not seem more than an anthill, where some ants carry corn, and some carry their young, and some go empty, and all to and fro on a little heap of dust. (handouts from Philosophy and the Composing Process, spring 1987)

Activity: Persona paraphrase can be introduced by taking a variety of sentences from student papers and substituting. Start out with just a word or two that conveys the same meaning. Proceed to sentences in which the meaning is changed by substituting. Check to be certain each student

understands the concept. Work on the first sentence in class and read aloud as many new subjects as possible. Assign the second sentence for homework. Each student substitutes three separate subjects, thereby ending up with three new sentences, but each in exactly the same format as the original sentence. Each student reads her favorite in class the following day.

Strategy: Akin to analogy is metaphor. Recall the triadic aspect of representing an idea by a form. The context that relates idea to form is the third constituent of the triad. Context is the "in terms of" in analogy. Metaphor is the literary term for this "triadicity." One form of representing ideas that is often thought of as metaphorical, is the poem. Often students are put off by poetry, feeling that they will not or cannot "get it." If poems by other students are presented, students can see the poem as a more accessible form. Following are two poems by students which may be used to illustrate that poetry may be about anything that comes to mind and need not rhyme. (The poem by the eighth grader does not rhyme.)

Poem Composed by a High School Student

I wonder if the mail has come
(Not that I really care.)
Our quarrel was really very dumb.
I wonder if the mail has come:
(I shouldn't have said that 'bout her hair.)
Should I have written? Do I dare?
I wonder if the mail has come.
(Not that I really care.) (MacVorie 1980,
255)

Poem Composed by an Eighth Grader

--too long? time wise

too much description
in some parts
too little in
others.
Too much cross
out
too sloppy
too much concern
about what other
people will think
too little concentration
too much thinking
about time
too much thinking
about game tomorrow
too much stop then
start-even while I write this
about a certain person
Argghhh (Mayher, Lester and Pradl 1983, 33)

Activity: Poems are representations of a personal perspective. Poems can be about trains or love, dirty baby diapers or wildflowers. Write a poem collaboratively on the blackboard. Ask for a statement from anyone, then ask for volunteers to add a statement that might follow the first. Continue with this for about eight lines, then ask if anything needs to be changed to make the poem more cohesive. By now the students will notice that it is in fact a poem and they have written it. Try it again now that the students know what they are constructing. Instruct the students to select one of their freewritings and pare it down to a poem. Choose words carefully. Again, don't explain, just present. A poem need not make sense to anyone but the poet. Here, regard for audience is at a minimum, as it is in freewriting. But, unlike freewriting, poems are very carefully chosen words. Repeat this assignment three times and then students choose the poem they feel best expresses their freewrite and revise it, pare it down still more. These are read in small groups

also, as are all assigned writings.

Summarizing

Perhaps I could establish a fourth subhead here called "synthesis of inner and outer worlds." But, any interaction we have with the outer world is a synthesis of a sort. Here, I would like to conclude the strategy/activity section of this thesis with two other assignments that address the metacognitive aspect of writing. What better way to become aware of how the writer's understanding has changed during the writing assignment, than to reflect on that understanding and write on it.

Strategy: Another technique, like the journal, that may be considered essential to the writing class is the summary. "Probably no form offers the student as much practical help as the summary." (Shaughnessy 1977, 269) The summary encourages close reading, while requiring that the overall pattern be perceived. Attention must be paid to sorting major premises from supporting points. The writer gets practice in forming concepts by grouping details under the appropriate category. The importance of distinguishing between summary and interpretation becomes clearer. A summary may be known as an abstract, precis, synopsis, a gloss, or even a paraphrase. But whatever we name it, it is important for students to understand how to do it. Most essay tests and papers assigned across the curriculum require some form of summarizing information.

Activity: Introduce "summary" to the class by asking

students to contribute an assignment prepared earlier in the semester which they feel contains many bits of information on a particular subject. Select a paper and collaboratively, determine the major premise, then the supporting parts. Split into small groups and practice picking out major points and those which support it on other student papers. Come back together as a whole class and have each group explain their reasons for choosing particular ideas as the main idea. Make certain that the material analyzed is familiar to the entire class. Assign another article from class readings to be summarized. When the students bring their summary phrases, ask them to now write up a summary in paragraph form making certain to make clear which are main points and which support. Read some of these to the whole class. Then assign a paragraph summarizing another reading. These will be responded to in small groups.

Strategy: Sometimes the writer can learn more from exploring an idea than summarizing it. The summary presents a whole with smooth defined edges, while an exploration might be represented by a sun exploding with bits going off in any number of directions. By trying out ideas in various forms for an established audience of peers in writing groups, the writer can come to understand her idea better. This exploration of a concept in writing takes on a metacognitive function. The writer is drawing together the varying strands of her understanding to make fresh connections in relation to her idea.

Activity: Following is a metacognitive activity that focuses on audience. Who is the reader of a writer's work? Most student writers consider their instructor when choosing words and phrases to convey their meaning. By introducing the writing collaborative, the writer can clearly transfer the role of reader to her peers. The instant feedback of a small group, as well as the authority developed as each reader responds to a work, combine to transform a writer's work. But these changes are subtle and may go unnoticed unless some metacognitive activity is introduced to show the writer what she is doing and learning.

Activity: This activity comes from the Foundations of Philosophy class taught fall 1986 by Dr. Wanda Teays in the Critical and Creative Thinking Program at UMass/Boston. The assignment has five parts, each about a typed page long. The first is to write a statement of a student's own beliefs and values. The sentences from Appendix A should provide insight to clarify values to each individual. Second, the writer is to state the same information to a close friend in a letter. Part 2 provides a casual context for expressing ideas sometimes kept beneath the surface, and also requires a summary. Part 3 conveys the same values and beliefs stated in Part 1 to a prospective employer. This provides a formal context from which to declare your core values.

By the time the writer reaches Part 3, she has become comfortable, or at least familiar, with her values and beliefs. She has already stated them twice, once for herself, once as though in conversation to a friend. Part 3 makes

clear how important it is to "experience" whatever it is the student is trying to write about. Part 4 of this assignment is an advertisement of the writer's values and beliefs. The writer must determine what form the advertisement is to take--want ad, full page ad with pictures, television, radio, or simply a letter of inquiry about a job in which the writer tells a little about herself. Part 5 is a summing up of the experience of writing the other four parts. What did the writer learn? What does she understand about herself and the writing process that she didn't understand before?

Strategy: Chapter Three was begun with reference to the familiarity students have with periodicals. An article published in a periodical is generally viewed as a legitimate piece of writing by the publisher--as an effective piece of writing. To give the student writer that same sense of legitimacy, the writing instructor may consider "publishing" student work. To provide closure for a writing class, other than handing in or getting back the final paper, publishing of selected articles produced in class can be considered. Here is where "correctness" comes in--correct spelling, correct grammar, correct usage. By organizing favorite pieces into a magazine format, the student writer can also see the importance of making her reading coherent, since someone may read the magazine when the writer is not there to clarify. Here is a good place also, to distinguish between revising and editing. Revising means changing content and language, while editing corrects writing to a standardized form of

syntax, style, mechanics and usage. Each has its place in the process of composing, but after the writer has determined what it is she has to say.

Activity: To publish a class magazine, have each student responsible for making copies of her favorite piece of writing from that semester. Ask an art student, or solicit faculty help to design a cover. Run these off on heavy paper. If someone has submitted a poem, it might be printed on the cover as a preview of what is inside. Holes can be punched and the magazine held together with brads. A class period might be devoted to reading the magazine, with half the class spent in reading, the other spent in sharing comments on the published material.

The strategies and activities presented here reflect the original key for effective writing set forth in the Chapter One. Fluency, experience, intention, dialectic, collaboration and interpretation are the elements interwoven to shape understanding. Fluency can not be stressed at the beginning of the semester and forgotten at the end. The writing collaborative doesn't work unless used regularly so students can become familiar with the techniques available to the writer as well as the responder. It takes time for a student to accept and use efficiently the authority invested in her by a writing collaborative. A student writer can not rely on the intention of the instructor to vitalize her work. Placing ideas beside one another which aren't always a match can help a writer learn how connections are made within the mind to form systems of knowledge or concepts.

Write it, write it, put it down in black and white...get it out, produce it, make something of it--outside you, give it an existence independent of you.

-Sigmund Freud

C O N C L U S I O N

The objective of this thesis has been to establish and explicate the theory that writing is learning which can lead to deeper understanding of the subject written about. Following the explication, the thesis has been extended to develop instructional interventions which clarify the writer's knowledge of her subject to herself. The elements of fluency and flexible access, experience, intention, dialectic, a collaborative construction of knowledge, and the interpretation which then follows have been set forth in Figure 1 as the key to effective writing. Chapter One has included theories of several writing instructors which support my thesis. In Chapter Two, implications of research articles by three teams of cognitive developmentalists, as well as an analysis of twenty years-worth of writing studies conducted by classroom practitioners, also corroborate the thesis. In Chapter Three, suggestions have been made for classroom activities to promote the construction of connections within the mind critical to understanding.

Fluency has been established as flexible access to ideas and the facility to find appropriate forms to clearly state those ideas. In order to choose the appropriate form to represent an idea, the writer sorts through her storehouse of alternatives trying out one and then another, until satisfied she has shaped just the meaning she intends. Simply being aware that there are alternative perspectives for any particular idea or event is a valuable insight to risk trying

optional forms of representation. In representing any idea in symbolic form, we establish a basic triadic quality--object, symbol, context. There is no one-to-one correlation between object and representation. There is always the third element of context which forces the possibility of other interpretations.

By supposing a potential reader for any written idea, that idea can assume a voice, a particular style suitable for the hypothetical audience. Working in groups can give the writer immediate feedback from peer readers without the added burden of formulating a hypothetical audience. A group offers the writer a social dialectic for her writing. By incorporating feedback, the writer develops a more cohesive piece of writing for which she can feel a sense of authority. Writing collaboratively, regularly using responses of peer readers, can give a writer the feedback necessary to shape an effective, cohesive piece of writing, whether the purpose be to fulfill a student assignment or write a professional article.

Central to fluency also, is a commitment to write regularly. One suggestion to develop a generative ability in writing is freewriting. In freewriting, the writer does not stop to choose words carefully, but aims to write steadily without going back to consider what has been written. Using this strategy, a writer may chance to discover hitherto unconscious aspects of her thinking. Freewriting has a wide application and can be employed to get the writer moving whenever she feels stuck, whether on an assignment or in

making a personal decision.

Fluency can be developed through various applications of the concept of the dialectical daybook. The dialectical daybook provides the writer with a visible dialectic between the outside world and herself by establishing the left side of the notebook for details from the environment, and the right side for the writer's response to those details. In establishing this dialectical format, a fundamental aspect of effective writing has been addressed. Central to the idea of fluency then, is the going back and forth from the outer world to the writer's response, always checking for connections to enhance understanding.

This thesis has assumed that knowledge is constructed in a social context; that without context, relevant meaning can not be determined. At the same time, this thesis maintains that knowledge is accumulated experience. Reflection has been suggested as a means to assimilate experience. By regarding a particular subject with intention, different perspectives of the subject may be noted and recorded in memory. Several of the authors surveyed here have written that experience is knowledge. But the individual aspect of experience and knowledge is informed by the collaborative aspect of our knowledge source. Although fluency is a quality that must be developed by the individual, her interaction with the environment provides prompts which serve as material for the writing process.

None of the key elements set out in Figure 1 operate

autonomously. Each is influenced by the others. Intention is as relevant to the development of fluency as it is to the heightening of experience. The collaborative writing group helps a writer determine an appropriate way to say what she has to say. And note it's an appropriate choice, not the appropriate choice. Dialectic acts across the board in the writing process. The individual uses the dialectic to develop fluency and to record her experiences, as well as respond to them. But dialectic is equally applicable to collaboration. A dialectic is just what happens within a writing group. Ideas addressed from varying perspectives by the group members provide multiple possibilities for interpreting any given subject.

In the effective writer, all the key elements from Figure 1 combine successfully to produce writing that is appropriate and unified around a particular intention. Most of the experts surveyed in this thesis have written describing the effective writer, or the ineffective writer. Figure 2, following the Conclusion, is a compilation of those views consolidated into a table of qualities for ready reference.

Writing this thesis has been an interesting first-hand experience of the elements discussed within it. In the Author's Note I have related some of that experience within my personal context. This paper has set out to show that writing is learning. Not only does the writer learn about her subject, but she learns more about herself, her limits and strengths. These limits and strengths, once understood, can

be trained for writing strategies. Writing instructors can be most effective when they consider the individual's particular strengths and weaknesses as they prepare an instructional program.

Some students may need to become more fluent, more at ease with exposing their ideas to public scrutiny. Others may need to be slowed down enough to experience items in their environment which generally slip by without a thought. Some students may need individual attention first before they can effectively use the input from a collaborative writing project. Instructors may have to make clear to others that there is generally more than one perspective on any given idea. Encouraging a writing student with suggestions for specific techniques to strengthen individual shortcomings is the sign of an effective instructor.

QUALITIES THAT ESTABLISH
A CONTINUUM FROM INEFFECTIVE TO EFFECTIVE WRITING

(Figure 2)

INEFFECTIVE WRITER	EFFECTIVE WRITER
1. Revises cosmetically	1. Revises ideas
2. Sacrifices meaning for surface detail	2. Meaning is primary concern
3. Controlled by language	3. Control of language
4. Governed by external rules	4. Internally derived heuristics
5. Ego-centric	5. Dialectic
6. Doesn't listen to or develop inner speech	6. Guided by intrapersonal communication
7. Other directed	7. Self-regulating
8. Assumes someone else has authority	8. Builds own sense of authority
9. Data dictates content and form	9. Interactional influence between data and text
10. Knowledge telling	10. Knowledge transforming
11. No goal, or poorly formulated	11. Specific, well-integrated goal
12. Fragmented plans which may not be implemented	12. Flexible plan determined by interaction with desired goal
13. Refers to concepts with single word	13. Elaborates concepts, tests generalizations with counter-examples
14. Observes subject superficially	14. Experiences subject through focused attention
15. Single pointed	15. Can shift perspective
16. Reduces uncertainty	16. Explores the unknown
17. Rushes to premature closure	17. Suspends conclusions, considers alternate perspectives
18. Expects writing to be easy	18. Knows writing takes time and concerted effort

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SUGGESTIONS FOR FURTHER READING

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APPENDIX A

Following is a list of sentence stems from which to start essays. These may be used for freewriting exercises or for more extended work. The list is designed to help the student reveal and explore some of her attitudes, beliefs, actions, convictions, interests, aspirations, likes, dislikes, goals and purposes. (Simon 1978, 241-46)

1. I wish the President would...
2. On vacations, I like to...
3. I'd like to tell my best friend...
4. Our community would be better if...
5. If I had \$50, I would...
6. Many people don't agree with me about...
7. The happiest day in my life was...
8. Some people seem to want only to...
9. I believe...
10. If I were five years older...
11. My advice to the President would be...
12. If I had a gun I would...
13. My favorite vacation place would be...
14. When I'm alone at home, I...
15. My bluest days are...
16. My best friend can be counted on to...
17. I am best at...
18. Something unique about me is...
19. People can hurt my feelings most by...
20. People who wear long hair...
21. Those with whom I work the closest are...
22. In a group I am...
23. If someone asked me to organize a new group...
24. When other people are upset and hurt in a meeting, I...
25. With my boss (teacher)...
26. The kind of person who always asks the boss for directions...
27. People who seldom let me know where they stand...
28. People who agree with me make me feel...
29. Strong independent people...
30. When people depend upon me, I...
31. I get angry when...
32. I have accomplished...
33. Being part of a group that has been together for a long time...
34. I get real pleasure from being part of a group when...
35. People who expect a lot from me make me feel...
36. Other people are frightened most by...
37. The things that amuse me most are...
38. I feel warmest toward a person when...
39. I like best the kind of teacher who...

40. In school I do best when...
41. If I feel I can't get across to another person...
42. What I want most in life is ..
43. When someone hurts me, I...
44. I often find myself...
45. I have difficulty trying to deal with...
46. When I see an associate (a classmate) always agreeing with the boss (teacher)...
47. When there are heated arguments in a meeting, I..
48. I am...
49. People who know me well think I am...
50. My boss (teacher) thinks I am...
51. People who work for (with) me think I am...
52. I used to be...
53. I want most out of school...
54. If I had it to do all over again, I would...
55. My greatest strength is...
56. I need to improve most in...
57. I am concerned most about...
58. It makes me most uncomfortable when...
59. I would consider it risky...
60. The subject I would be most reluctant to discuss here is...
61. When I enter a new group, I feel..
62. When people first meet me, they...
63. When someone does all the talking, I...
64. I feel most productive when a leader...
65. In a group, I am most afraid of...
66. I am hurt most easily when...
67. I trust those who...
68. A fat person...
69. I have never liked...
70. Secretly, I wish...

APPENDIX B

Following is a list of suggestions for how to use the dialectical daybook. The list is a combination of broad function areas (Mayher, Lester, Pradl 1983, 24) and specific items (Murray 1987, 11).

Recording: Perceived information or events.

- observations
- fragments of events or perceptions
- quotations from artists or writers
- newspaper clippings

Responding: On the-spot reactions to subject content or event.

- fragment of feelings a beautiful scene inspires

Questioning: Structures, meanings, implications?

- questions that need to be answered.

Rehearsing: Try on a new role, or new language.

- play
- develop an imaginary conversation

Connecting: Link event or person perceived with past experience.

- diagrams between parts of ideas
- musings

Consolidating: Summarize and interrelate abstract concepts and systems.

- notes on lectures, or readings, or conversations
- paste in copies of important letters or correspondence

Anticipating: Speculate on what may come next or develop.

- outlines
- notes
- titles of books to be read

- films to see
- schedules
- lists

Inventing: Create stories, concepts, relationships or insights.

- fragments of events or perceptions
- leads for pieces of writing
- titles
- ideas for stories, poems, papers

Analyzing and Synthesizing Learning: Comment on how learning is happening with any subject.

- diagrams showing how piece might be organized or the relationships between parts of an idea

Analyzing and Synthesizing Composing: Comment on the writing of this work, or the composing of a piece of artwork.

- drafts

APPENDIX C

GUIDELINES FOR WRITERS' GROUPS

Following is a compilation of suggestions for writers and responders within a collaborative writing group. The suggestions were compiled by faculty members Sharon Flitterman-King and Robert Whitney of the Bard College Institute for Writing and Thinking. Both compilers credit Peter Elbow as a source for their material. The suggestions have been modified somewhat by this writer.

AUTHOR'S OPTIONS FOR FEEDBACK AND ASSISTANCE FROM READERS

These suggestions are meant to be a menu to choose from as needed, rather than a progression. If you can't find what you need on the list, make up a directive for responders. The session should feel like a negotiation, in which responder and writer collaborate to meet the needs of the writer.

Kinds of help a writer can ask for	Point at which assistance might be helpful
Talk about your writing process. Ask for feedback.	Early on, or when something fresh is happening.
Ask for no response. Just read aloud.	Any time when you want some perspective, but aren't ready for feedback.
Active listening--"sayback." Listener rewords what writer is trying to say.	When help is needed in groping toward an idea.
Skeleton finding. What is backbone or central assertion. What are implicit or explicit supporting points.	When writing is disjointed or a collage and you need help organizing.
Pointing. What words or images stand out. Just point, don't explain.	For confirmation of impression evoked. List may be written.
Movies of responder's mind. At what points did you experi- ence--feel, think, see, hear what.	To discover if audience gets what you have intended.
Suggestions. If I were writing this I might try... because....	Late in process, and only if you find it easy to say no. Ask why.

Voice metaphor. What image can be attributed to authority of text.

When voice and intention don't seem to work together, or when unsure of authority.

Problematizing. If you were to question or argue against the ideas in this piece, what ideas or details raise questions.

When finished but unsatisfied.

Criterion based feedback. How does this writing work or not work.

Late, and only if writer is confident about the piece.

Proofreading and editing. Look for mechanics that make you uncomfortable.

Only when ready for final draft.

LISTENING AND FEEDBACK OPTIONS FOR RESPONDERS

Be mindful of responding to the discovery of understanding in the writer as well as the words chosen to represent the writer's ideas. Feedback can be oriented to the writer or the writing, the process or the product. Responders must be mindful also that the writer is always ultimately in charge.

Ask writer to talk about what led her to writing, what went on during writing, what she is trying to say.

Often useful for start of feedback session, creates a context.

Pointing. What words, phrases, or images stand out. "I liked"

Point to specifics without discussion.

Active listening or "sayback." "I hear you saying...."

Invitation to writer to explore. Object is not for listener to get it right, but to help writer discover her ideas.

Lurkings. What is almost heard, what is circling around the edges. What might be elaborated.

Helps writer push the writing, uncovering possibilities.

Center of gravity. What is heart of the piece, its focus.

Helps writer identify or confirm thesis or central assertion. More analytical response.

Skeleton-finding. Identify main and supporting ideas.

Responders might write a sentence for each paragraph, thus helping writer with existing structure.

Movies of the mind. What
was felt, thought, or
experienced at what points
in the text.

Subjective reactions in
writer know effect of her
words.

Criterion-based feedback. Assessment according to ex-
Evaluating clarity, wording, pectations outside the piece
logic, organization, concepts. of writing

APPENDIX D

Following is a list of cliches that writing students are directed to stay away from. At the end of the cliches is a list of fresh ways of looking at situations and writing about them. The "fresh expressions" were compiled by Ken Macrorie in Telling Writing, (Macrorie 1980, 88) selected from the writings of junior high students through university level students.

CLICHES

1. out of the clear blue sky
2. cold shivers up my back
3. eyes glued
4. down in the dumps
5. racked our brains
6. broke my heart
7. lump in my throat
8. safe and sound
9. well aware
10. one and only
11. last but not least
12. not a care in the world
13. heavy as a rock
14. light as a feather
15. hit the nail on the head
16. sharp as a tack
17. alive and well
18. in no time flat
19. a complete disaster
20. reckless abandon
21. not a care in the world
22. remember only too well
23. rude awakening
24. deeply disturbed
25. pay dearly

FRESH EXPRESSIONS

1. That man is hairless as a window.
2. If this kid was a dog, he looks like he's been chasing parked cars and punched his nose in.
3. Her mouth looks like she has been eating red candy and got it all over.
4. His eyes look like you picked them up from a kid's marble game, big and brown.
5. It was quiet in the woods and smelled of hot pine trees.
6. His wooden leg was lying on the bedroom floor by the side

of his bed, on the rug, like a faithful dog.

7. I turned my head to the side, resting it on his shoulder and could feel his warm Listerine breath on the back of my neck.

8. All the colors outside are muted as if someone forgot to dust off the trees and grass.

AUTHOR'S NOTE

Since this thesis addresses the subject of "writing," I would like to examine my experience of writing it. There is instructional value in going back over my writing process to see how my writing style has changed in response to formulating and developing this thesis.

Let me begin with the context in which I have written. This is the fourth semester I have attended classes at UMass/Boston in the Critical and Creative Thinking Program. I have done well in my classes and enjoyed the experience more than I could have anticipated. I enjoy learning, being introduced to new concepts and perspectives. I'm still puzzling over how I let myself stray from academic life for nearly twenty years.

During the first three semesters, I rented a room in Chestnut Hill three days a week to save myself the hour and a half commute each way from Cape Cod. I also knew I must shut out my everyday world in order to concentrate on coursework. I find it easy and comfortable to give attention to several things at once, which sometimes means a particular project is concluded later than I may have planned. So I shut out distractions for three days a week and felt satisfied that I was giving my full attention to my courses.

When it came time to undertake this thesis, I decided not to apply for another assistantship to pay for my room in Boston, but to guard my time jealously and stay at home to write my thesis during work hours when my house is quiet and

undisturbed. I had only one course remaining to which I would commute. The commute to class, classtime, and taking care of odds and ends at school pretty well occupied one day. I continued to tutor writing once a week at Cape Cod Community College, thereby leaving three days a week to concentrate on my thesis uninterrupted, plus snatched time from the weekends. I estimate I spent about twenty-four hours a week reading for and writing for this thesis over a three month period. Thank goodness I had gathered all my material the last semester when I had easier access to the university library. During that semester I also had time to request interlibrary loan books and articles without the pressure of deadlines limiting the collection of material.

When I began narrowing my topic, I first decided to write on "the dispirited writer"--that writer who is tentative in setting out her ideas for all to see. I consider myself a "dispirited writer." I have never been confident in my writing, yet I worked at a newspaper for eight years, during which time I was the theater reviewer. But this topic was abandoned when it was decided that "spirit" was a difficult area to address and it would be better to concentrate on something more concrete.

As I collected material, I became fascinated by Donald Murray's notion of "writing as discovery." In a 1978 article, "Internal Revision," Murray lists quotes from forty or so authors who express that writing is not writing what you already know, but working toward finding out what you know. For example:

Edward Albee: Writing has got to be an act of discovery....I write to find out what I'm thinking about.

William Faulkner: It begins with a character, usually, and once he stands up on his feet and begins to move, all I do is trot along behind him with a paper and pencil trying to keep up long enough to put down what he says and does.

Frank Conroy: Most often I come to an understanding of what I am writing about as I write it (like the lady who doesn't know what she thinks until she says it).

Mary McCarthy: Every short story, at least for me, is a little act of discovery. A cluster of details presents itself to my scrutiny, like a mystery that I will understand in the course of writing or sometimes not fully until afterward....a story that you do not learn something from while you are writing it, that does not illuminate something for you, is dead, finished before you started it. (Murray 1978, 101-102)

This notion was particularly fascinating to me because I had never been able to write from an outline. I felt rigidly confined and never knew enough points before hand about my subject for an outline. And that is what happened with this thesis. Figure 1 grew as the thesis progressed, from a rudimentary bunch of words into the coherent thesis key as it stands now. The emphasis shifted from heuristics to interpretation, which seems to me a shift from production to reflection on experience. I didn't even of including "interpretation" as a key element until I was well along in the writing process. Interpretation is such a basic ingredient of writing that it is generally taken as a given, and not examined as an area that can be encouraged and expanded by intervention.

Once I sat down to begin my thesis, I spent a month simply reading, saturating myself with the material I had

collected. The longer I read, the harder it became to begin to write because there was so much material. What I had thought was a narrow topic ended up being the core of every discussion on writing I had collected. Everything I read seemed pertinent to making connections necessary to retrieve perceptionss stored away in the corners of the writer's mind. My assertion that writing is a learning process was much more widely accepted in the literature than in the students' work I've been dealing with in my tutoring sessions. Also most of the instructors I work with earned their degrees fifteen to twenty years ago, before the "process of writing" became the focus as opposed to the product. Also, without exception, their field had been literature, not composition. None of the writing instructors I know has taken a course in composition since Freshman Comp, much less a course in how to teach writing. But, the literature I was reading assumed "writing as discovery" is an accepted tenet of composition theory. Just to show how common "writing as thinking" is, here is a quote from a mailing I received this winter from TIME Education Program while I was immersed in my thesis--busy working out a way to prove that meaning is more important as a goal in writing than correct punctuation; that experience is knowledge; that writing is thinking.

We are above all in the business of meaning. Reporting is thinking, writing is thinking, editing is thinking, in words and pictures, our mission is alchemy; to turn information into knowledge.

Even slick advertisements were making what I had assumed was an esoteric, academic point.

After this revelation that my topic was accepted by the educational community at large, (although evidence of it is still scarce), I became discouraged. I mailed off sections of my paper as I finished them, seeking feedback (as in the collaborative writing groups) for my ideas. I felt like I was picking single flowers from a field and hoping they would represent the whole field. I knew the field very well, but I wasn't sure I was conveying a fair representation of it.

By the time I received feedback on my writing, I usually had progressed in my thinking to a place which somewhat matched the comments of my committee members. But I varied wildly in my conception of how well I had representing my ideas. What was it that was missing in my writing that made others feel I didn't know the material? Everytime I read a description of the ineffective writer, or basic writer, or unskilled writer, it described my writing style. I gathered material ad infinitum, afraid to try to synthesize it; I quoted at great length passages which supported my ideas, but then they looked like someone else's ideas; I operated from point to point, afraid to risk leaping ahead to my goal to integrate it with my work.

Revision. I determined revision was the answer. Once I laid out the pieces of my quilt, I could rearrange them to make a coherent pattern. That was one quality of the unskilled writer I didn't have--I didn't mind rearranging my thoughts, deleting some, elaborating others. So I revised and sent those new drafts off for feedback. And they wrote back "unclear," "awkward."

I was feeling pretty "dispirited" by this point, but determined that I could shape my thesis into a form that was acceptable to each facet of my multi-disciplinary committee. I finally realized that this was where my first, most basic point came in--fluency. The more I "experience" the writing process, the more able I am to make appropriate choices for my idea's representation. Perhaps I'm just playing with words here, but I feel that the four main elements included in my thesis key--fluency, experience, collaboration, interpretation--pretty well encompass the fundamentals of life as I know it. The more often I tackle a subject, whether writing about it or reflecting on it, the more ways in which I can interpret any aspect of it to inform my daily life.

The process that went on in this writer as I prepared this thesis matches the pattern established in Figure 1 as formulating a theory of writing toward understanding. Perhaps my process matched because understanding is such a fundamental part of living. We must understand those we live with, whether under the same roof, or on the other side of the world. But before we can tackle understanding "them" we must understand ourselves--we must know what we know. I believe writing is a means to learn what I know.

I have rarely put as much effort into anything as I have put into this thesis. I have never taken so few breaks, expended so much concerted effort in something that I felt so unsure of. The very thought of writing one hundred pages on any particular subject was so overwhelming that I gathered

reams of xeroxed material and dozens of books to ensure I had enough raw material. My chore was to gather material into my thoughts and make those thoughts coherent to another. Having faith that I could do that chore was the variable which kept my work fluctuating so wildly. This thesis didn't address the issue of confidence, but my conclusion on finishing it, is that confidence is the element that underlies and can undermine all the rest.

The issue of confidence can be addressed partially by the work of Jensen and DiTiberio on Jungian character types as they correlate with an individual's writing process. Should I ever get my confidence in hand enough to undertake a doctorate, cognitive emotion is the area I would like to study, especially as it relates to individual writing styles and processes.

It is fitting that I should close this look at my writing process with a consideration of what I'd like to study next. Learning doesn't end a study, but opens up further questions which could not have been formulated without the learning that took place. The more I learn, the more I discover I don't know. The more I write, the more I learn what I don't know.